ARIZONA PUBLIC SERVICE COMPANY



REMEDY SELECTION REPORT FOR THE BOTTOM ASH POND AND THE FLY ASH POND

CHOLLA POWER PLANT, NAVAJO COUNTY, ARIZONA

May 29, 2026

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Remedy Selection Report for the Bottom Ash Pond and the Fly Ash Pond

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Prepared for

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Abbreviations and Glossary

Abbreviations

Abbreviation	Description
%	percent
§	Section
ACM	Assessment of Corrective Measures
amsl	above mean sea level
ADWR	Arizona Department of Water Resources
APS	Arizona Public Service
ASD	Alternative Source Demonstration
ASM	Adaptive Site Management
BAM	Bottom Ash Monofill
BAP	Bottom Ash Pond
C-aquifer	Coconino Sandstone aquifer
CAS	Corrective Action System
CCR	coal combustion residuals
CFR	Code of Federal Regulations
Cholla	Cholla Power Plant
COC	contaminant(s) of concern
CSM	Conceptual Site Model
DO	dissolved oxygen
FAP	Fly Ash Pond
ft	foot, feet
GMCAR	Groundwater Monitoring and Corrective Action Report
gpd	gallon(s) per day
gpm	gallon(s) per minute
GWPS(s)	Groundwater Protection Standard(s)
ITRC	Interstate Technology Regulatory Council
lb(s)	pound(s)

Abbreviation	Description
mg/L	milligram(s) per liter
M&A	Montgomery & Associates
M-K	Mann-Kendall
MNA	monitored natural attenuation
ORP	oxidation-reduction potential
Plant	Cholla Power Plant
RCRA	Resource Conservation and Recovery Act
Report	Remedy Selection Report for the Bottom Ash Pond and the Fly Ash Pond
RSR	Remedy Selection Report for the Bottom Ash Pond and the Fly Ash Pond
SA	Semi annual
SAP	Sampling and Analysis Plan
SBE	serial batch extraction
SDAWP	Statistical Data Analysis Work Plan
Site	Cholla Power Plant
SSE	selective sequential extraction
SSL(s)	statistically significant level(s)
TDS	total dissolved solids
TWX	Tanner Wash Extraction
USEPA	U.S. Environmental Protection Agency
WSP	WSP USA Inc.

Certification Statement

In accordance with 40 Code of Federal Regulations Section 257.97 of the Coal Combustion Residuals Rule, this Groundwater Remedy Selection Report (RSR or Report) for the Bottom Ash Pond (BAP) and Fly Ash Pond (FAP) has been prepared on behalf of Arizona Public Service Company (APS) to document the selection of remedies for coal combustion residuals units that have been identified as potentially impacting groundwater at the APS Cholla Power Plant (Cholla or the Site) in Navajo County, Arizona.

This RSR was prepared under the supervision and direction of the undersigned, whose seal as a registered Professional Engineer is affixed below.



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Vice President – Geological Engineer

Arizona PE No. 45746

Executive Summary

This Groundwater Remedy Selection Report (RSR or Report) was prepared for Arizona Public Service Company (APS) to document the selection of groundwater remedies for two coal combustion residuals (CCR) units, the Bottom Ash Pond (BAP) and Fly Ash Pond (FAP), at the Cholla Power Plant (Cholla, the Plant, or the Site) in Navajo County, Arizona. The Report fulfills requirements for remedy selection under the U.S. Environmental Protection Agency's (USEPA's) CCR Rule (40 Code of Federal Regulations Section 257.97), addressing groundwater impacts where constituent concentrations exceed Groundwater Protection Standards (GWPSs).

The CCR Rule sets standards for management and corrective action for CCR units impacting groundwater. APS has conducted extensive groundwater monitoring, statistical assessments, and public engagement activities to select remedies that meet regulatory performance criteria. APS has also undertaken actions to progress closure of the BAP and FAP in accordance with federal CCR regulations.

Nature and Extent of Impacts

BAP. Cobalt concentrations in groundwater downgradient of the BAP exceed the GWPS (0.006 milligrams per liter [mg/L]), with the plume's maximum extent located approximately 3,000 feet (ft) downgradient of the base of the dam and 4,200 ft upgradient of the nearest potential receptor, the Little Colorado River. There is evidence that the concentration of cobalt in the plume and the plume mass are decreasing with statistical significance.

FAP. Lithium, arsenic, fluoride and molybdenum concentrations exceed GWPSs in groundwater downgradient of the unit; the plume with the maximum extent (lithium) extends less than 1,000 ft from the base of the dam and over 3,500 ft upgradient of the Little Colorado River.

CCR Unit	Constituent	Maximum Observed Concentration Second Semi Annual Event 2025 Well Location	Maximum Observed Concentration Second Semi Annual Event 2025 (mg/L)	GWPS (mg/L)	Basis for GWPS
BAP	Cobalt	W-307R	0.0353	0.006	Alternative Risk-Based Value
FAP	Lithium	M-65A	0.991	0.418	BTV
	Arsenic	M-51A	0.0248	0.010	USEPA MCL
	Fluoride	W-123R	5.75	4.0	USEPA MCL
	Molybdenum	M-65A	0.270	0.10	Alternative Risk-Based Value

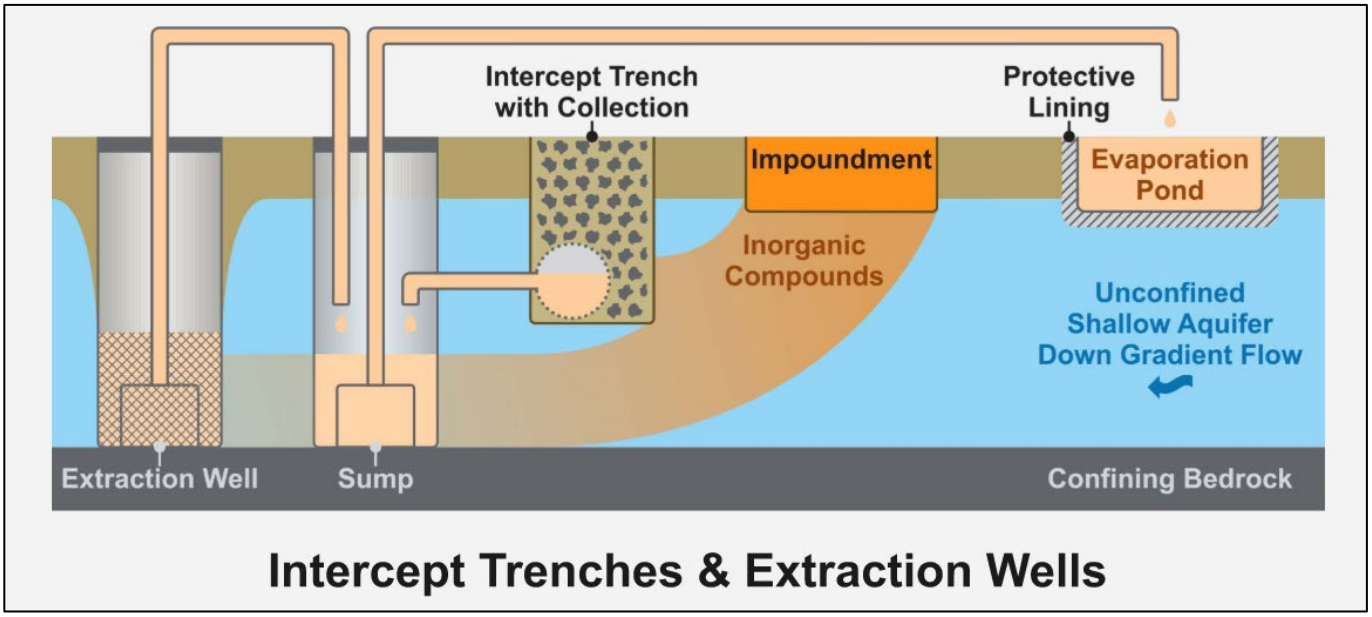
Key: CCR = coal combustion residuals; GWPS = Groundwater Protection Standard; mg/L = milligram(s) per liter; BTV = background threshold value; USEPA = U.S. Environmental Protection Agency; MCL = Maximum Contaminant Level (for Drinking Water)

Selected Remedies

The remedy selection process included assessment of corrective measures, Pre-Design Studies, and performance evaluations. The selected remedies for both units consist of three corrective measures as follows.

1. Hydraulic Containment

At both the BAP and FAP, operation of a series of seepage intercept trench systems and extraction wells to capture impacted groundwater has been implemented as an interim corrective measure. The systems have demonstrated effectiveness in reducing contaminant migration and are incorporated into the selected remedy. Extracted water from systems located downgradient of both units is currently directed to an on-site evaporation pond.

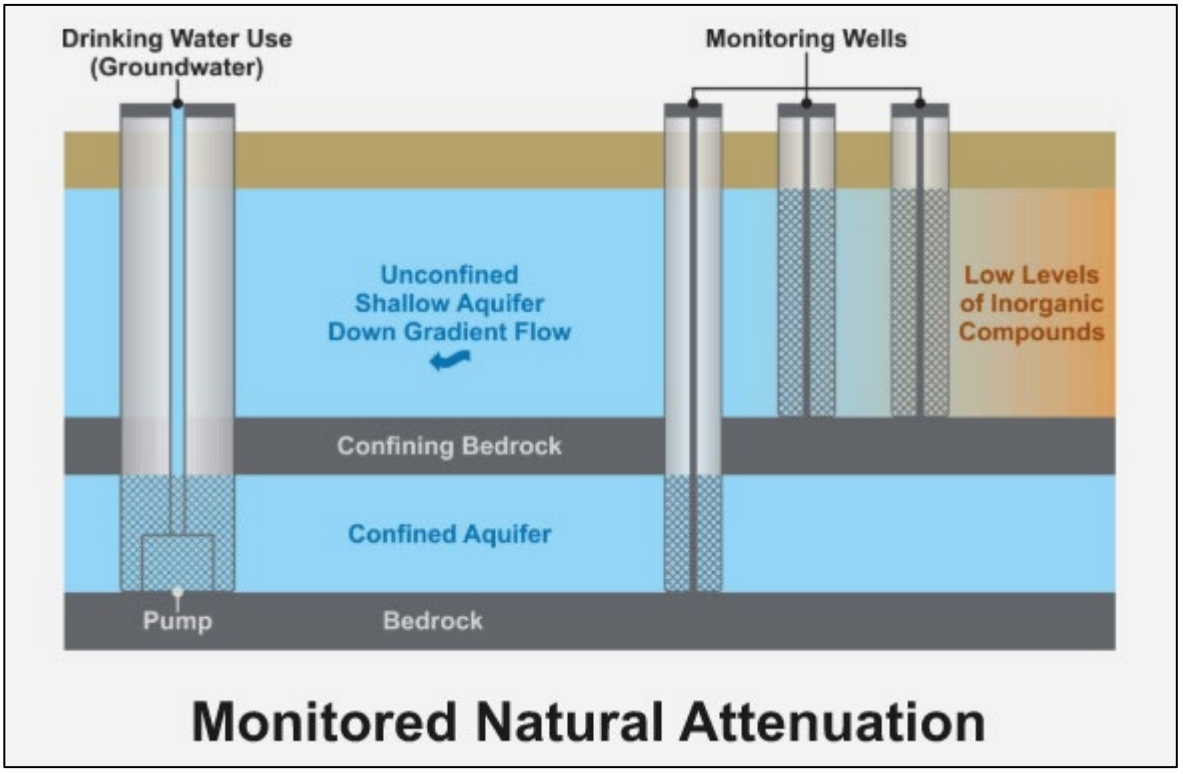


Intercept Trenches & Extraction Wells

2. Monitored Natural Attenuation

BAP. At the BAP, monitored natural attenuation is supported by site-specific geochemical conditions, monitoring data, and plume behavior; monitored natural attenuation appropriately complements active containment to reduce dilute concentrations of contaminants of concern. Monitoring ensures that concentrations in groundwater downgradient of hydraulic containment operations are protective of receptors. Performance is tracked by groundwater monitoring and statistical trend analyses.

FAP. At the FAP, monitored natural attenuation is a "polishing step" for distal portions of contaminant plumes to reduce dilute concentrations of contaminants of concern. Monitoring ensures that concentrations in groundwater downgradient of hydraulic containment operations are protective of receptors. Performance is tracked by groundwater monitoring and statistical trend analyses.



3. Adaptive Site Management

Adaptive Site Management provides a framework for ongoing monitoring, evaluation, and adjustment of corrective actions over time. Both interim and long-term performance standards for the corrective actions are developed to evaluate remedy performance. Adaptive triggers are established to ensure remedies remain effective and protective throughout corrective action implementation.

Performance Demonstration

Both remedies are designed to meet federal requirements by protecting health and the environment, achieving GWPSs, controlling contaminant sources, removing contamination, and managing waste responsibly. The approach is adaptive, with ongoing monitoring and adjustments as needed to ensure long-term effectiveness.

Corrective Action Groundwater Monitoring Program

A Corrective Action Groundwater Monitoring Program will be implemented within 90 days of remedy selection. The program outlines a comprehensive, adaptive monitoring approach designed to ensure regulatory compliance, track remedy effectiveness, and protect groundwater quality at the Site. The program uses a network of monitoring wells, regular data analysis, and annual reporting to guide ongoing corrective action.

Implementation Schedule

BAP. Closure of the BAP is underway and expected to be completed through CCR removal by June 30, 2030. Currently operating corrective measures as well as newly selected corrective measures will transition to remedy implementation as of the date of this report. Two additional extraction wells will be designed in 2026 and constructed in 2027. The results of monitoring will support whether the wells will be operated to enhance hydraulic containment. The results of groundwater modeling suggest that although no downgradient receptors will be impacted, it may take a long time to address the low levels of cobalt present in groundwater downgradient of the BAP due to the hydrogeologic conditions present at the site. ASM and additional measures will be used to target completion within approximately 30 years.

FAP. Final closure of the FAP in place (with some areas closed by removal and consolidation) is expected by June 30, 2030. Currently operating corrective measures as well as newly selected corrective measures will transition to remedy implementation as of the date of this report. Six additional extraction wells will be designed in late 2026, constructed in 2027, and operational in early 2028 to enhance hydraulic containment. Groundwater corrective action will continue until GWPS compliance is achieved, which is expected within less than 25 years for most constituents and up to 25–50 years for lithium.

1. Introduction

This Groundwater Remedy Selection Report (RSR or Report) was prepared on behalf of Arizona Public Service Company (APS) by WSP USA Inc. (WSP) for the Cholla Power Plant (Cholla, the Plant, or the Site) in Navajo County, Arizona. WSP has completed an evaluation of corrective action activities implemented and selected to address constituents in groundwater at statistically significant levels (SSLs) above the Groundwater Protection Standards (GWPSs) at two separate coal combustion residuals (CCR) units at the Site. These CCR units include the Bottom Ash Pond (BAP) and the Fly Ash Pond (FAP). This Groundwater RSR was prepared to meet the requirements of the U.S. Environmental Protection Agency's (USEPA's) CCR Rule for selection of a remedy per 40 Code of Federal Regulations (CFR) Section (§) 257.97.

The remainder of Section 1 provides a summary of the background and purpose of the Report, a description of the Site and location, and an outline describing how the Report is organized.

1.1 Background and Purpose

The CCR Rule became effective on October 19, 2015, and established standards for the disposal of CCR in landfills and surface impoundments at applicable sites. Since that time, APS has conducted CCR Rule groundwater compliance activities at the Site and performed statistical assessments of collected groundwater data. Based on the results of these statistical evaluations, there is evidence to suggest that releases from the BAP and the FAP have impacted downgradient groundwater at concentrations that exceed applicable GWPSs and require corrective action.

In 2019, APS completed an Assessment of Corrective Measures (ACM) to address the contaminants of concern (COCs) identified at SSLs above the GWPS in groundwater downgradient of both the BAP and the FAP (Wood 2019c). Prior to preparing this Groundwater RSR, semi annual (SA) progress reports were prepared to describe the progress made in evaluating corrective measures including additional site characterization and Pre-Design Studies (M&A 2018; Wood 2019a, 2019b, 2020a, 2020b, 2021, 2022a; WSP 2023a, 2023c, 2024a, 2025a). Based on the results of these studies, corrective measures assessments, and public engagement, APS has selected groundwater remedies for identified impacts that meet the standards listed in 40 CFR § 257.97 (b).

The purpose of this Report is to present the selected remedies and provide a demonstration that the selected remedies and approach to ongoing site management and monitoring will meet the performance criteria set forth in the CCR Rule. The selected remedies consist of continued operation of the existing hydraulic containment systems as the primary active corrective measure and monitored natural attenuation (MNA) as a supplemental measure for concentrations downgradient of the hydraulic containment systems. Adaptive Site Management (ASM) will be used to guide performance monitoring, address uncertainty, and optimize corrective action over time.

1.2 Site Location and Description

Facility Description. Cholla is a coal-fired power plant that had two electric generating units (Units 1 and 3) in operation as of shut down of coal-fired boiler operation in April 2025. Units 1 and 3 with a combined nameplate capacity of 425.9 megawatts are owned and were operated by APS. Unit 2 was retired in 2015, and Unit 4 was retired in December 2020. Coal burned at the Plant was previously sourced from the McKinley Mine in New Mexico. When the McKinley Mine closed in 2009, the source of coal switched to the Lee Ranch and El Segundo mines near Grants, New Mexico.

Facility Location. The Plant and associated infrastructure are located on land owned by APS adjacent to Interstate 40 (I-40) between the City of Winslow and the City of Holbrook in Navajo County, Arizona (**Figure 1**). The Plant stands next to Cholla Reservoir, which was formerly used as a cooling pond for Unit 1 and also serves as a water storage reservoir for the Plant. Cholla Reservoir was originally constructed in the early 1900s by the Joseph City Irrigation Company (Shilling 2005) but was more recently configured in its current location and design by APS in 1961. Cholla Reservoir receives deliveries of groundwater pumped from the nearby Cholla Well Field extracting from the Coconino Sandstone aquifer. The typical water surface elevation of Cholla Reservoir is 5,022 feet (ft) above mean sea level (amsl).

CCR Unit Description. Plant infrastructure includes three single CCR units referred to as the Bottom Ash Monofill (BAM), BAP, and FAP. A former CCR unit, referred to as the Sedimentation Pond, was certified as closed by removal in October 2022. The BAP and FAP dams were completed in 1978, and the BAM came into operation in the late 1990s. The BAM is the only CCR unit currently receiving CCR. **Table 1** summarizes the location, function, operation, size/construction, and history of each unit. The boundaries of CCR units depicted in **Figure 2** are based on available historical plans for the units.

Multiple monitoring well systems (which consist of background wells and downgradient waste boundary wells for each unit) are in place at Cholla to monitor groundwater conditions associated with each of the CCR units. The installation of these networks is documented in the CCR Monitoring Well Network Report and Certification and is identified as compliant with 40 CFR § 257.91(a) through (e) (Montgomery & Associates [M&A] 2017, WSP 2023b, 2026b).

1.3 Report Outline

The remainder of the Report is structured based on the following:

- Section 2 describes the closure status of the BAP and the FAP.
- Section 3 presents the Conceptual Site Model (CSM) for groundwater impacts, including key groundwater monitoring and corrective action activities performed to date and the nature and extent of constituents.
- Section 4 describes the remedy selection process and summarizes the ACM, reviews Pre-Design Studies performed, and presents the selected remedies and ASM plan for the CCR units in corrective action.
- Section 5 describes how the selected remedies meet performance requirements.
- Section 6 outlines the Corrective Action Groundwater Monitoring Program.
- Section 7 presents the corrective action schedule and key activities identified for upcoming years.
- Section 8 describes recordkeeping requirements.
- Section 9 presents all references used within this Report.

2. Unit Closure

In the CCR Rule, unit closure and corrective action are separate but concurrently implemented activities that must be coordinated to achieve compliance with GWPSs at all points within the plume of contamination that lies beyond a unit's waste boundary. Unit closure in effect serves as a means of source control, limiting ongoing releases from the unit, which impacts the scope of corrective action, i.e., the contaminated groundwater downgradient of the unit. Given the close relationship between unit closure and groundwater corrective action, this section summarizes closure activities at the BAP and FAP CCR units that have occurred to date and those that are currently planned to occur in the future. Closure plans and updates are posted on the public APS CCR website (https://www.aps.com/en/Utility/Regulatory-and-Legal/Environmental-Compliance#Cholla).

Closure in accordance with 40 CFR § 257.102 of the CCR Rule is required for unlined CCR units and units with groundwater impacts at SSLs that exceed GWPSs (i.e., units in corrective action). The remedies discussed in this Report integrate existing closure strategies for the units in corrective action. The proposed corrective action strategy incorporates the closure of the BAP (AECOM 2025a) by removal and closure of the FAP (AECOM 2025b) in place with select areas closed by removal and consolidation. The closure plans outline how APS will effectively control the source of CCR constituents to groundwater by the strategies that are described below and include a variety of recognized and generally accepted engineering practices.

2.1 Closure of the Bottom Ash Pond by Removal

The closure plan for the BAP (AECOM 2025a) states that the unit will be closed by removal, including the following closure activities:

- Dewater the BAP by lowering the free water pond and using pumps, wells, mechanical means and/or rim ditches to incrementally drain saturated ash of drainable pore water.
- As the unit is dewatered, excavate CCR and CCR-impacted underlying soils from the BAP and place in the BAM and/or direct to an ash processing facility for beneficial use.
- After CCR and CCR-impacted soils are removed from the BAP, breach the BAP dam in a manner that will allow remaining embankment sections to be classified as non-jurisdictional under Arizona dam safety regulations.
- Recontour the former BAP footprint, cleared of CCR and CCR-impacted soil, to convey stormwater through the breach at rates that comply with local regulations.

Closure activities commenced on June 30, 2025, with the last receipt of CCR. Dewatering and CCR removal activities are anticipated to be completed by June 30, 2030. Groundwater corrective action will be completed during the post-closure care period for the unit. The closure status for the CCR units is detailed in **Table 1**.

2.2 Closure of the Fly Ash Pond in Place and by Removal

The closure plan for the FAP (AECOM 2025b) states that the unit will primarily be closed in place although some CCR and CCR-impacted soils at the edges of the unit will be closed by removal with consolidation within the unit. Closure activities include the following:

- Dewater by removing and disposing of free water as well as drainable pore water extracted from the unit using pumps, wells, and/or mechanical means.
- Excavate thinner CCR deposits as well as CCR-impacted soils along the northern boundary of the unit to make way for construction of four large, lined evaporation basins on the upgradient side of the unit to capture non-contact stormwater after the unit is capped. These areas will be certified as closed by removal prior to construction of the new stormwater basins. The stormwater basins are sized to contain both on-site and off-site runoff from the Probable Maximum Flood.
- Place excavated materials with impounded CCR behind the FAP dam and appropriately grade to promote proper drainage.
- Construct a multi-layered evapotranspiration cover over the consolidated CCR solids. An alternative final cover system was developed and certified as compliant with the requirements of 40 CFR § 257.102(d)(3) for closure of the FAP (AECOM 2025b). The evapotranspiration cover system was selected based on its performance in arid and semi-arid climates.

Closure activities commenced on June 30, 2025, with the last receipt of CCR. Dewatering and other unit closure activities are planned to be completed by June 30, 2030. Groundwater corrective action will be completed during the post-closure care period for the unit. The closure status for the CCR units is detailed in **Table 1**.

3. Conceptual Site Model

The CSM for corrective action at the Site contextualizes available geological, hydrogeological and geochemical information to convey how groundwater and constituents (Appendix III and IV parameters) migrate from CCR units to potential human health and environmental receptors. The CSM has been established for the Site using a framework of preexisting site-specific information and the various field investigations conducted by APS. This CSM is a dynamic tool and evolves as additional data are collected and more is known about the setting. A detailed description of the CSM for each unit is included as follows.

3.1 Surface Water Features

The Plant is north of the Little Colorado River in the Middle Little Colorado watershed (**Figure 2**). The Little Colorado River is a meandering, perennial stream with intermittent reaches in a large alluvial floodplain. The BAP is within a tributary to Tanner Wash. An unnamed wash system with a drainage basin of approximately 1,200 acres discharges into the FAP. Both the unnamed wash system at the FAP and Tanner Wash tributary are ephemeral tributaries to the Little Colorado River.

The largest surface water body located near the Plant is the Cholla Reservoir, which is a man-made cooling pond and water storage reservoir located east of the Plant owned and operated by APS. The Cholla Reservoir receives deliveries of groundwater pumped from the nearby Cholla Well Field, which extracts groundwater from the Coconino Sandstone aquifer (C-aquifer). The typical water surface elevation of the Cholla Reservoir is 5,022 ft amsl.

Other surface water features near the Plant include small ponds on neighboring parcels east of the BAP and south of the FAP that receive surface water flow from Tanner Wash and from irrigation water supplied by the Joseph City Canal south of I-40, respectively. These ponds are used for livestock watering.

3.2 Geology

The Plant resides on the Colorado Plateau, which is a regional physiographic province typified by layered sequences of sedimentary and igneous rock units. The topography of the Plant area is characterized by rolling terrain, open vistas, and incised drainages/arroyos.

At the Plant and nearby CCR units, the uppermost geologic units that are expected to influence groundwater flow and contribute to variations in naturally occurring constituent concentrations across the Site are as follows (in descending order):

- *Little Colorado River, Tanner Wash, and Other Wash Alluviums*: These quaternary surface alluviums overlie bedrock formations in localized areas at Cholla and surrounding CCR units. The alluviums

are unconsolidated, heterogeneous, and consist of clay, silt, sand, and gravel. In general, the Tanner Wash Alluvium (near the BAP) and other wash alluvium (mostly under the FAP) are finer grained than the alluvium downgradient and in the main channel of the Little Colorado River. The alluviums in the area range in thickness from non-existent to approximately 200 ft, and in general are thickest underneath the Plant and Cholla Reservoir. Around the CCR units, the alluviums range from approximately 100 ft thick in the vicinity of the southern BAP dam to 50 ft thick in the vicinity of the FAP Dam.

- *Chinle Formation*: An outcropping of the Chinle Formation of Triassic age is present in the vicinity of the BAP. The Chinle is divided into the Shinarump and Petrified Forest Members. In this area, the Shinarump Member is present and mostly a yellowish-orange to yellowish-gray sandstone that is composed of very fine to very coarse quartz grains and rounded to well-rounded pebbles. The member is, for the most part, weakly cemented and forms gentle slopes. Typically, the surface is soft, and covered with well-rounded pebbles of quartzite, jasper and chert.

- *Moenkopi Formation*: The Moenkopi Formation is the uppermost geologic unit beneath the Plant and CCR units and is generally present at land surface in areas where the alluvium is non-existent. The thickness of the Moenkopi Formation near the Plant ranges from non-existent to over 300 ft. Where it is sufficiently thick, the Moenkopi Formation acts as an aquitard between the shallow alluvial aquifer and the underlying Coconino Sandstone aquifer. The Moenkopi Formation consists of three members, described below:

  Holbrook Member: This is a relatively permeable, well-consolidated sandstone. The Holbrook Member is the uppermost member of the Moenkopi Formation and is not always present in the subsurface at the Site. However, it is present along the southern toe of the eastern BAP dam, where the dam abutments are partially built on Holbrook outcrops.

  Moqui Member: This is the primary confining unit within the Moenkopi Formation and consists of maroon and greenish mudstone with abundant gypsum.

  Wupatki Member: This is the lowest member of the Moenkopi Formation and is approximately 30 to 50 ft thick. The Wupatki Formation consists of relatively permeable sandstone and is in hydraulic connection with the underlying Coconino Sandstone.

- *Coconino Sandstone*: The Permian-age Coconino Sandstone is the principal lithologic unit of the C-aquifer, a regionally important aquifer for water supply. It is composed of very fine- to fine-grained sandstone with variable permeability depending on the degree of fracturing and cementation. The unit is approximately 375 to 400 ft thick in the vicinity of the Plant.

- *Schnebly Hill Formation*: The Schnebly Hill Formation is a very fine-grained, reddish sandstone that is about 300 to 350 ft thick near the Plant. It is part of the C-aquifer, but its hydraulic conductivity is about 10 to 28% that of the Coconino Sandstone.

3.3 Hydrogeology

The uppermost groundwater underlying the BAP and FAP exhibits characteristics defined by the structural, depositional, and geochemical properties of the local subsurface geologic units, interactions with nearby surface water features, and influences from unlined CCR units.

Two hydrostratigraphic units and a regional aquitard are conceptualized beneath the Plant and associated CCR units. These units form the basis for the hydrogeologic CSM developed by Montgomery & Associates (2011) and (2017) for the purpose of evaluating compliance wells for the CCR groundwater monitoring system and the updated BAP CSM presented by WSP (2023c). **Figure 3** shows the potentiometric groundwater surface from data collected semi annually in October of 2025.

- *Alluvial aquifer*: The first hydrogeologic unit, the alluvial aquifer (consisting of the Little Colorado River, Tanner Wash, and other wash alluviums), is present beneath the Plant area, Cholla Reservoir, and the Tanner Wash and Little Colorado River drainage channels adjacent to the BAP and FAP, respectively. The alluvial aquifer in this area receives recharge from the Little Colorado River, Tanner Wash, other contributing drainage channels and any leakage through anthropogenic features such as the reservoir and the nearby Joseph City Canal. The alluvial aquifer is not used as a drinking water supply but does support a riparian habitat along natural surface water channels that are typically dry. Depth to water in the alluvial aquifer ranges from several feet to several tens of feet below land surface in the Cholla area, varying spatially based on proximity to recharge sources and topography, and seasonally based on rainfall-runoff patterns. Where present, groundwater flows generally in the downstream direction of the surface water drainages under which it is present, that is, east to west in the Little Colorado River Alluvium and north to south in the Tanner Wash Alluvium. Groundwater flow in the Little Colorado River Alluvium is also influenced by deeper paleochannels that may not coincide with the present river channel.

- *Moenkopi Formation*: The alluvial aquifer and the C-aquifer are separated by the Moenkopi Formation, which includes a regional aquitard that creates a barrier in some areas between the two aquifers in the vicinity of Cholla where the unit is sufficiently thick. There are no reported uses of the Moenkopi for water supply in the region. In areas where the C-aquifer in the Coconino Sandstone is confined, the Wupatki member of the Moenkopi (Wupatki) has been observed to be water-bearing. However, the overlying Moqui, which ranges in thickness from non-existent to 300 ft can be dry and prevents hydraulic connection between the alluvial aquifer and the C-aquifer (where it is present) and is effectively bedrock when considering water quality conditions and groundwater movement in a significant portion of the alluvial aquifer. Recent investigations indicate localized saturation occurs in the uppermost layer of the Moqui downgradient of the BAP and FAP, principally at the base of historical drainage channels where the unit is weathered or where penetrations from monitoring well installation activities have fractured the mudstone of the Moqui and allowed overlying alluvial groundwater to infiltrate into the unit (Wood 2023c).

- *C-aquifer*: The second hydrogeologic unit is the C-aquifer, which consists of the Coconino Sandstone and Schnebly Hill Formation in the vicinity of the Plant. Groundwater in this aquifer is under confined conditions in areas north of the Little Colorado River where the Moqui member of the

Moenkopi Formation (Moqui) acts as a confining bed. Groundwater movement in the C-aquifer is generally to the north. However, the Cholla Well Field (southwest of the Plant) has created a cone of depression that has made the localized groundwater flow in a westerly direction in that area. Near the FAP, the inferred flow of groundwater in the C-aquifer is to the west or northwest, possibly due to the broad, northwest-trending anticline that extends from the vicinity of the FAP to near Joseph City.

3.3.1 Bottom Ash Pond

The relevant hydrostratigraphic unit conceptualized beneath the BAP is the alluvium and a localized weathered upper portion of the Moqui member. Below this unit the Moqui is considered an aquitard. The alluvial/weathered Moqui aquifer forms the basis for the hydrogeologic CSM (M&A 2011, 2017) for the purpose of evaluating compliance wells for the CCR groundwater monitoring system.

The BAP is located in an ephemeral surface water channel that formerly discharged into Tanner Wash. The northern and western abutments of the BAP dam are constructed on the Moenkopi Formation, whereas the length of the southern portion of the dam is constructed predominantly on alluvial material. The BAP dam has a clay core that extends through the alluvium to bedrock where the alluvium is less than 20 ft thick at the time of dam construction. In regions where the alluvium was greater than 20 ft thick, a cutoff wall was constructed that generally extended to bedrock. However, due to the depths involved, the cutoff wall does not extend to bedrock in the middle of the channel underlying the southern dam. There is an approximately 30- to 40-ft-thick layer of alluvium below the base of the cutoff wall in that region (at an elevation of 4,980 ft amsl). Groundwater near the BAP flows south–southwest primarily through the Tanner Wash Alluvium to its confluence with the Little Colorado River Alluvium.

Near the southern BAP dam, groundwater flows in the alluvial aquifer and within a localized region of the weathered, uppermost portion of the Moqui. This portion of the alluvial aquifer receives recharge from contributing drainage channels upgradient of the BAP and seepage from the BAP, which generally flows in the channel from north to south. The weathered, intermittently saturated section of the upper Moqui downgradient of the BAP is hydraulically connected to the alluvium. These lenses of saturation in the Moqui occur principally at the base of historical drainage channels where the unit is weathered and likely was exposed at the surface at some point. This allowed a limited portion of the upper Moqui in localized areas under the alluvium to be more friable resulting in hydraulic connectivity with the alluvium and limited groundwater flow creating a single hydrostratigraphic unit (WSP 2023c).

Cross sections have been created with updated information from the CSM to illustrate the relationship between the groundwater monitoring system, CCR units and facilities, and site geology. **Figure 4** shows the location of the BAP section lines in relationship to the Site.

Groundwater near the BAP flows south–southwest primarily through the Tanner Wash Alluvium to its confluence with the Little Colorado River Alluvium. Near the southern BAP dam, groundwater flows within a localized region of the weathered, uppermost portion of the Moqui. The areas of saturated Moqui have been defined as occurring in limited layers located primarily at the alluvium to Moqui contact where weathering of the unit likely occurred due to erosion before alluvial deposition. Areas of observed saturated Moqui are outlined in blue on Sections A through F (**Figures 5** through **10**).

3.3.2 Fly Ash Pond

The FAP was constructed by damming an ephemeral surface water channel with a limited watershed that previously discharged to the Little Colorado River floodplain. The surface impoundment is primarily underlain by the relatively impermeable Moqui member of the Moenkopi Formation; however, a thin layer of alluvial sediments underlies the FAP (particularly in the vicinity of the dam) and is in communication with alluvium downgradient of the FAP. The FAP dam has a clay core that extends through the alluvium to Moqui bedrock where the alluvium was less than 20 ft thick at the time of dam construction. In the middle of the dam where the alluvium was greater than 20 ft thick, a cutoff wall was constructed that generally extended approximately 1 to 2 ft into bedrock. Groundwater at the toe of the FAP dam flows west–southwest primarily through shallow alluvial sediments (which are fairly fine-grained) and then merges with the Little Colorado River Alluvium where the predominant direction of groundwater flow is to the west. Localized saturation also occurs in the weathered, uppermost portion of the Moqui near the FAP dam and downgradient of the FAP, near the Geronimo and Hunt seeps.

Figure 11 shows the location of the FAP cross section lines in relationship to the Site. Groundwater near the FAP flows south–southwest primarily through the Little Colorado Alluvium before shifting to the northwest along with the rest of the Little Colorado River flow. Similar to the BAP, groundwater near the FAP dam also flows within a localized region of the weathered, uppermost portion of the Moqui. The areas of saturated Moqui have been defined as occurring in limited layers located primarily at the alluvium to Moqui contact where weathering of the unit likely occurred due to erosion before alluvial deposition. Areas of observed saturated Moqui are outlined in blue on Sections G through I (**Figures 12** through **14**).

3.4 Ambient Groundwater Quality

APS began evaluating groundwater and the hydrogeology in the area of the Plant as early as 1984. Due to the natural heterogeneity of the geologic conditions underlying the BAP and FAP, constituent concentrations are spatially heterogeneous across these areas. The Site in general is also expected to exhibit both spatial and temporal heterogeneity attributable to local climatic regimes and contributions from surface water recharge.

In general, early groundwater chemistry data identifies naturally high total dissolved solids (TDS) and sulfate concentrations in alluvial groundwater located near the BAP and the FAP, due to interaction with the Moqui member of the Moenkopi, which has gypsum stringers and an overall sulfate mineralogy (Sergent, Hauskins and Beckwith 1973; M&A 2017; Woodward-Clyde, Inc. 1991). Background TDS concentration levels generally decline near the Little Colorado River. High nitrate concentrations observed in monitoring wells around the BAP are suspected to be naturally occurring (Woodward-Clyde, Inc. 1991).

3.5 CCR Unit Characterization

This section describes the physical setting, construction features, hydrogeologic conditions, and groundwater interactions associations with the BAP and FAP. Specifically, the discussion summarizes the CCR unit operational histories, design features, subsurface geology, groundwater flow conditions, and seepage pathways to characterize contaminant occurrence and migration pathways.

3.5.1 Bottom Ash Pond

The BAP is an unlined surface impoundment constructed to store slurried bottom ash from the Plant. The pond primarily contains bottom ash, but may also contain small quantities of fly ash, boiler slag, flue gas emission control residues, sedimentation pond effluent, cooling tower blowdown, oil/water separator effluent and solids, boiler cleaning waste, and storm water. The BAP was constructed between 1976 and 1978 within a tributary to Tanner Wash. The BAP dam consists of a southern and eastern dam which operate as one dam system. The southern BAP dam was constructed primarily on alluvial material and Moenkopi Moqui geologic units and the eastern BAP dam was constructed on alluvial, Moenkopi Holbrook, Moenkopi Moqui, and Chinle formations. Both the southern and eastern BAP dams contain a clay core that extends through the alluvium to bedrock where the alluvium was observed to be less than 20 ft thick at the time of dam construction. In regions where the alluvium was greater than 20 ft thick, a cutoff wall was constructed that generally extended to bedrock. However, due to the depths involved, the cutoff wall does not extend to bedrock in the middle of the channel underlying the southern dam. There is an approximately 30 to 40-ft thick layer of alluvium below the base of the cutoff wall in this region (at an elevation of 4,980 ft amsl). **Figure 15** shows relevant BAP infrastructure.

The alluvium in Tanner Wash and the wash below the southern dam is composed of heterogeneous and laterally discontinuous layers of clay, silt, sand, and gravel. A zone of coarser-grained material is generally observed at the base of the alluvium and in discontinuous layers in the central portions of the Tanner Wash alluvial basin.

Figure 4 shows a plan view of the location of the BAP with Cross Sections A, B, C, D, E, and F, which illustrate subsurface conditions below the BAP and surrounding areas. Cross section A highlights subsurface conditions north of the BAP, the central portions of the BAP pond and southern BAP dam, and the area approximately directly south of the BAP (**Figure 5**). The cross section extends from approximately directly north of well M-60 to directly east of well MW-76A. Lithologic data from wells TDX-4, M-59, M-60, M-61, MW-76A, MW-78A, MW-79A, W-303, W-302, W-304, W-305, W-306, W-310, and W-311, and historical BAP construction logs were referenced to determine lithologic contact elevations.

Cross section B highlights subsurface conditions of the area downgradient of the southeastern corner of the BAP pond (**Figure 6**). The section extends from the central portion of the BAP pond, across Tanner Wash and terminates southwest of W-307R. Lithologic data from wells MW-71A, MW-72M, W-307R, piezometer B-208, and historical BAP construction logs were referenced to determine lithologic contact elevations.

Cross section C highlights subsurface conditions below the center of the Tanner Wash Alluvial basin, located east of the BAP. The section follows the Tanner Wash drainage from south of the BAP (near MW-77A) to northeast of the BAP (approximately 1,500 ft east of M-55A). Lithologic data from wells TDX-5, M-55A, MW-71A, MW-72M, MW-73A, MW-74M, MW-77A, MW-79A, W-301, W-304, W-307R, W-308, and W-309 were referenced to determine lithologic contact elevations. Additionally, geophysical data acquired as part of the BAP Pre-Design Studies (WSP 2023c) was interpreted to determine lithologic contact elevations east of M-55A (**Figure 7**).

Cross section D highlights subsurface conditions downgradient of the southern BAP dam. The section extends along the foot of the southern BAP dam from the western extent of the dam to the eastern side of the Tanner Wash alluvial basin (approximately 750 ft northeast of W-307R) (**Figure 8**). Lithologic data from wells TDX-3, TDX-4, TDX-5, M-52A, M-53A, MW-70M, MW-71A, MW-72M, MW-73A, MW-74M, W-305, W-306, W-310, and W-311, and historical BAP construction logs were referenced to determine lithologic contact elevations.

Cross section E highlights subsurface conditions downgradient of the BAP near the southernmost extent of the Tanner Wash alluvial basin (**Figure 9**). The section extends approximately 750 ft northwest of W-301 to approximately 250 ft southeast of W-302. Lithologic data from MW-78A, W-301, and W-302 were referenced to determine the shape of the alluvial basin in the area of the cross section. The lithologic contact depths between the lower subunits of the Moenkopi Formation and between the base of the Moenkopi Formation and the Coconino Sandstone were projected in the cross section using regional bedding attitudes as determined from the other cross sections.

Section F highlights subsurface conditions from the eastern portion of the BAP across the Tanner Wash alluvial basin near the Tanner Wash Extraction (TWX) area (**Figure 10**). Lithologic data from wells BSX-04, BSX-05, MW-73A, MW-74M, W-312, W-313, W-314, W-308, piezometers B-226, B-228, and B-229, and historical BAP construction logs were used to interpret the lithologic contact elevations.

Groundwater flow downgradient of the BAP in the alluvial aquifer is bound horizontally by the shape of the Tanner Wash alluvial basin (as shown on **Figure 4**), and vertically by the lower portions of the Moqui formation. Areas of saturated Moqui are observed and have been defined as occurring in limited layers located primarily at the alluvium to Moqui contact where weathering of the unit likely occurred due to erosion before alluvial deposition (WSP 2023c). The extent of the moisture in the Moqui illustrated on Sections A through F, was interpreted from moisture noted in the Moqui on the lithologic logs included on the respective cross sections.

To the east of the eastern dam, the ground surface elevation declines and intersects the potentiometric surface produced by head in the BAP. Surface seeps have occurred where flow may be migrating through distinct beds in the Moqui that intersect ground surface. There are multiple pathways for seepage flow beyond the southern and eastern dams.

There are four seepage intercept systems associated with the BAP surface seeps which effectively intercept drainage to Tanner Wash: the Toe Drain Area sump and drainage trench, Tanner Wash Seep sump and drainage trench, Petroglyph Seep sump and drainage trench, and the TWX Area extraction wells (TWX-3 to 5, TWX-6R, 7R, 8R and TWX-9 to 10), also known as B-226 seep area or B-226

Seepage Intercept System. These systems extract intercepted groundwater and pump the seepage back to the BAP. The collection systems were originally installed in the early 1990s and were designed to address observed seepage at the ground surface. Upgrades to the systems were made in 2024 (WSP 2025b).

Evidence suggests the BAP was a source of groundwater in the alluvium and localized weathered upper portion of the Moqui member, while also receiving recharge from contributing drainage channels upgradient of the BAP and the groundwater. The alluvial aquifer is likely composed of multiple water-bearing zones with limited connectivity between one another contributing to the high degree of heterogeneity of the aquifer materials (WSP 2023c). As the BAP is dewatered, reductions in groundwater quantity and head will slowly reduce the water levels, starting with the near BAP wells. Wells closer to the base of the BAP dam are showing groundwater level declines (beginning at the end of 2022) ranging from 2 to 7 ft (M-52A, M-53A, MW-69A, MW-71A, MW-73A, MW-74M, W-305, W-306, W-314). Wells located farther from the BAP show groundwater levels that are either flat or increasing (M-55A, MW-77A, MW-78A, MW-79A, W-301, W-302, W-307R) as would be expected due to the limited connectivity of the aquifer and the historic impact of seepage from the BAP. **Figure 16** and **Figure 17** presents hydrographs for these wells.

3.5.2 Fly Ash Pond

The FAP is an unlined surface impoundment constructed to store slurried fly ash from the Plant. Although that may be the reason the pond was initially constructed, it primarily contains flue gas desulfurization solids and minor amounts of off-spec fly ash, but may also contain small quantities of bottom ash, boiler slag, boiler cleaning waste, oil/water separator solids, and storm water. The FAP was constructed in 1978 by damming an ephemeral surface water channel with a limited watershed that previously discharged to the Little Colorado River floodplain. The dam was constructed of earth fill with a clay core that extends to bedrock where the alluvium was less than 20 ft thick at the time of dam construction. In the middle of the dam, where the alluvium was greater than 20 ft thick, a cutoff wall was constructed that generally extends 1 to 2 ft into bedrock. **Figure 18** shows relevant FAP infrastructure.

Currently, two active seepage intercept systems (Geronimo Seepage Intercept System and the Hunt Seepage Intercept System) are located downgradient of the FAP dam to intercept seepage from the FAP. These systems were originally constructed in the early 1990s near the base of the FAP dam, with Geronimo located north of I-40 and Hunt located south of I-40. Upgrades to the systems were made in 2022 (WSP 2023d).

The Geronimo Seepage Intercept System consists of five extraction wells (GSX-01R, EW-01, EW-02, EW-03, and EW-04), two dewatering sumps (Geronimo C [GSX-3] and D [GSX-4]), and two drainage trenches. The dewatering sumps are completed to approximately 10 ft deep in the alluvium, and the two seepage trenches were constructed from approximately 4 to 6 ft deep in the alluvium. The extraction wells intercept the relatively thick zone of gravelly alluvium observed at the base of the alluvium and the seepage trenches target groundwater in the upper portions of the alluvium. The seepage intercept trenches route intercepted groundwater to GSX-3 and GSX-4 and are approximately 350 ft and 200 ft

long, respectively. The location of the Geronimo Seepage Intercept System components is outlined on **Figure 18**.

The Hunt Seepage Intercept System consists of one extraction well (Hunt B [HSX-2]), and one 480 ft long seepage intercept trench which discharges to a dewatering sump (Hunt A [HSX-1]). HSX-2 is 40 ft deep and screened to the base of the alluvium and the seepage intercept trench is approximately 6 ft deep. The location of the Hunt Seepage Intercept System components is outlined on **Figure 18**.

Figure 11 shows a plan view of the location of the Fly Ash Pond with Cross Sections G, H, and I, which were created to illustrate subsurface conditions below and near the FAP (**Figures 12**, **13**, and **14**). Cross section G highlights subsurface conditions below the northwestern portions of the FAP and area downgradient of the FAP dam. The section extends from the north central portion of the FAP pond, through the FAP dam (north of the central cutoff wall) to approximately due south of alluvial monitoring well M-46A. Lithologic data from wells M-51A, MW-65A, MW-68M, M-46A, piezometers F-93 and F-101 through F-106, historical FAP construction logs and historical borings were referenced to determine lithologic contact elevations.

Cross section H highlights subsurface conditions below the southwestern portions of the FAP and area downgradient of the FAP dam. The section extends from the south-central portion of the FAP pond, through the FAP dam (south of the central cutoff wall) to approximately due south of alluvial monitoring well MW-67A. Lithologic data from wells W-123R, EW-04, GSX-1R, GSX-2, W-123R, MW-66A, W-127, and M-67A, historical FAP construction logs and historical borings were referenced to determine lithologic contact elevations.

Cross section I highlights subsurface conditions below the downgradient side of the FAP dam. The section extends from approximately the northwestern boundary of the FAP dam to the southeastern boundary of the FAP dam. Lithologic data from wells located downgradient of the BAP dam upgradient of Interstate 40 were referenced to determine lithologic contact elevations.

Seepage from the FAP is bound vertically by the lower extents of the Moqui member of the Moenkopi Formation, where the unit is unweathered and acts as an aquitard. Observed saturation in the Moqui is highlighted in blue on **Figures 12** and **13**. The contact between the alluvium and Moqui, where gravelly clay layers of alluvium and weathered portions of the Moqui exist, may be the predominant pathway for seepage transport from the FAP. Additionally, seepage out of the FAP is strongest along the northwest and southeast sections of the FAP dam where the cutoff wall is not present. Groundwater elevations measured at wells located northwest and southeast of the cutoff wall (such as M-51A and W-123R, respectively) are almost 15 ft higher than wells located downgradient of the center portion of the FAP dam where the cutoff wall is present (such as M-50A) (**Figure 14**). This relationship identifies the water contained in the FAP as a contributing source of groundwater observed in the alluvium downgradient of the FAP.

Figure 19 presents hydrographs for wells completed in the alluvium and saturated portions of the Moqui downgradient of the FAP dam from 2015 to November 2022.

3.6 Nature and Extent of Constituents Above the Groundwater Protection Standards

The extent of impact of COCs to the groundwater near the BAP and FAP is defined by COC concentrations above the designated GWPS. Groundwater monitoring activities have occurred on an SA basis beginning in 2015 at monitoring wells located around the BAP and FAP, in accordance with 40 CFR § 257.90-257.95. Monitoring well locations completed near the BAP and FAP are presented on **Figure 2** as documented in the CCR Groundwater Monitoring System Certification Report (WSP 2023b, 2026b).

Based on groundwater monitoring performed pursuant to the federal CCR Rule and the APS Sampling and Analysis Plan (SAP) (Wood 2022b), cobalt is identified in Site groundwater located downgradient of the BAP at concentrations exceeding the GWPS concentration (0.006 milligrams per liter [mg/L]), and arsenic, fluoride, lithium, and molybdenum are identified in Site groundwater located downgradient the FAP at concentrations exceeding their respective GWPS concentrations (0.010, 4.0, 0.418, and 0.10 mg/L, respectively)

Initial detection monitoring at the Site occurred between November 2015 and September 2017 and consisted of eight initial sampling rounds of background and downgradient monitoring wells at each of the CCR monitoring systems. However, issues with encountering sufficient saturation upgradient the FAP and BAP required the installation of M-64A (a background well) in February 2017 and the extension of initial detection monitoring to a total of 13 sampling rounds for all other wells (M&A 2018). Upon the completion of the initial statistical analysis, there was sufficient evidence to declare an SSL over the GWPS for cobalt and lithium at the BAP. An Alternative Source Demonstration (ASD) was completed 2019 that identified the source of lithium as natural variability in geogenic sources (Wood 2019c). An additional SSL was declared for combined radium in 2025 and subsequently an ASD was prepared, which identified the source of the combined radium as natural variability in geogenic sources (WSP 2025c). The lithium and combined radium ASDs were last updated in 2025 (WSP 2025d). Upon the completion of the initial statistical analysis, there was sufficient evidence to declare SSLs over the GWPSs for arsenic, cobalt, fluoride, lithium, and molybdenum at the FAP (Wood 2018). An ASD for the exceedance of cobalt at the FAP concluded that cobalt is not attributable to the FAP but inconsistent laboratory reporting limits (Wood 2020c).

These exceedances warranted the transition to corrective action monitoring at both the FAP and BAP in 2018 pursuant to 40 CFR § 257.95(b). Pursuant to 40 CFR § 257.95(f), both the FAP and BAP have remained in assessment monitoring since 2018 and exceedances of Appendix IV constituents have been detected at both CCR units. Arsenic, fluoride, lithium, molybdenum at concentrations exceeding their respective GWPS in groundwater downgradient of the FAP and cobalt detections at concentrations exceeding the GWPS in groundwater downgradient of the BAP have continued.

Figure 20 shows the current iso-concentration contour map for cobalt at the BAP. **Figures 21**, **22**, **23**, and **24** show the current iso-concentration contour maps for arsenic, fluoride, lithium, and molybdenum

at the FAP, respectively. The iso-concentration maps were produced based on the results of groundwater sampling conducted in the second SA event in 2025, except as noted in the figures.

Tables 2 and **3** summarize concentrations of the COCs and select water quality parameters in samples collected from wells located downgradient of the BAP and FAP in the second SA event in 2025, respectively. Current concentrations of the COCs at the BAP and FAP are summarized below. A summary of the monitoring well network is included in **Table 4**.

3.6.1 Bottom Ash Pond

Groundwater in the vicinity of the wells located hydraulically downgradient of the eastern and southern BAP dams (M-52A, MW-69A, MW-70M, MW-71A, MW-74M, W-301, W-302, W-303, W-304, W-305, W-307R, and W-314) measures cobalt concentrations exceeding the GWPS (0.0060 mg/L). As of October 2025, the highest concentrations of cobalt (greater than five times the GWPS) exist in the vicinity of W-307R (screened from 4980 to 5010 ft amsl in the center of the Tanner Wash alluvial basin) and M-52A (screened from 4977 to 5027 ft amsl near the contact between the alluvium and Moqui), at 0.0353 and 0.0311 mg/L, respectively (**Figure 20**). The farthest locations from the BAP with cobalt exceeding the GWPS are W-301 and W-302, which are approximately 0.35 and 0.48 miles (respectively) downgradient of the southwest boundary of the BAP (**Figure 20**). Currently, MW-77A and MW-78A do not exceed the GWPS (0.006 mg/L) and bound the downgradient extent of the cobalt exceedances above the GWPS.

SA samples indicate cobalt concentrations in pond water of the BAP are lower than concentrations observed in groundwater, suggesting that a natural source of cobalt in the formation contributes to the observed SSLs. Pre-Design Studies indicate the BAP pond water creates reducing groundwater conditions, leading to reductive dissolution of iron and manganese oxides and the concomitant release of adsorbed cobalt into groundwater. Thus, the BAP has indirectly caused the release of cobalt from native sediments by the saturation of site sediments and associated changes in geochemical conditions due to the infiltration of water, causing relatively more reducing conditions.

Figure 25 presents a time series plot of cobalt concentrations at select wells located in the aquifer downgradient of the BAP from November 2015 (when monitoring began) through October 2025.

Figure 4 shows a plan view of the location of the BAP with Cross Sections A, B, C, D, E, and F (**Figures 5, 6, 7, 8, 9,** and **10**), which illustrate subsurface conditions below the BAP and surrounding areas. Sections A through D depict the approximate extents of the elevated cobalt concentrations (greater than 0.006 mg/L) that exist downgradient of the southern and eastern BAP dams and across the Tanner Wash alluvial basin to the southeast of the BAP. Section E illustrates the approximate extents of elevated cobalt concentrations near the southeastern periphery of the cobalt plume.

3.6.2 Fly Ash Pond

The highest concentrations of COCs (arsenic, fluoride, lithium, and molybdenum) are present in the uppermost aquifer downgradient of the FAP dam where the cutoff wall is not present. The current trends suggest that the presence of the cutoff wall mitigates the majority of seepage of COC mass from the FAP

to the alluvial aquifer. Low constituent concentrations have historically been observed at W-125, which is screened in the Coconino aquifer. These findings suggest that the lower portions of the Moqui are a vertical barrier between the COC mass from the FAP and the C-aquifer. These relationships are illustrated in geologic cross sections presented in **Figures 12, 13,** and **14**, which include iso-concentration lines depicting GWPS exceedances referenced to the stratigraphy below and downgradient of the FAP.

The highest concentrations of arsenic (greater than [>] 0.01 mg/L) in the alluvium occur in the vicinity of M-51A with a detection of 0.0248 mg/L in the second SA event in 2025 (**Figure 21**). Elevated concentrations of arsenic have been observed further downgradient (M-67A, MW-84A and MW-85C) which have been attributed to natural geochemical conditions and not a release from the FAP (Wood 2021b; WSP 2026a). **Figure 26** presents a time series plot of arsenic concentrations at select wells located in the vicinity of the FAP through October 2025.

Elevated concentrations of fluoride, lithium, and molybdenum are present in the uppermost aquifer around the FAP cutoff wall (**Figures 22, 23, 24, 27**, **28**, and **29**). The current extent of elevated fluoride concentrations (> 4.0 mg/L) are around the cutoff wall (M-51A, W-123R and W-126) (**Figure 22**). **Figure 27** presents a time series plot of fluoride concentrations at select wells located in the vicinity of the FAP through October 2025. The current extent of elevated lithium concentrations (> 0.418 mg/L) are around the cutoff wall (M-50A, M-51A, MW-65A, MW-66A, W-123R and W-126) (**Figure 25**). **Figure 28** presents a time series plot of lithium concentrations at select wells located in the vicinity of the FAP through October 2025. The current extent of elevated molybdenum concentrations (> 0.10 mg/L) are around the cutoff wall (M-51A and MW-65A, and W-126) (**Figure 24**). **Figure 29** presents a time series plot of molybdenum concentrations at select wells located in the vicinity of the FAP through October 2025.

COC concentrations exceeding their associated GWPSs have not been detected at any wells located beyond MW-46A and MW-83A in the hydraulically downgradient direction, which delineate the maximum extent of COC plume migration from the FAP toward the Cholla Lake and the Little Colorado River.

Figure 11 shows a plan view of the location of the Fly Ash Pond with Cross Sections G, H, and I, which were created to illustrate subsurface conditions below and near the FAP (**Figures 12**, **13**, and **14**). Sections G, H, and I illustrate the approximate extents of the elevated arsenic, fluoride, lithium, and molybdenum (greater than 0.01 mg/L, 4.0 mg/L, 0.31 mg/L, and 0.1 mg/L, respectively) that exist in the uppermost aquifer downgradient of the FAP. Section G illustrates the approximate extents of the elevated arsenic, fluoride, lithium, and molybdenum concentrations northwest of the cutoff wall, section H illustrates the approximate extents of elevated fluoride, lithium, and molybdenum concentrations southwest of the cutoff wall, and section I illustrates the approximate northwestern and southeastern extents of elevated arsenic, fluoride, lithium, and molybdenum concentrations southwest of the cutoff wall.

3.7 Exposure Pathway Analysis

An exposure pathway analysis was completed in 2020 as part of a risk evaluation which assessed the potential for COCs that exhibit SSLs in groundwater at the Site to impact human and environmental receptors (Wood 2020d).

The primary pathways to potential receptors occur through the transport of contaminated surface water and/or groundwater in the alluvial aquifers to the C-aquifer and/or secondary receiving media (i.e., surface water bodies and extracted potable, irrigation, or commercial water) and the subsequent exposure of these human or ecological receptors via ingestion and dermal contact with the contaminants.

The surface water exposure pathway involves the potential migration of impacted groundwater through seeps located on the downgradient edges of the BAP and FAP as surface runoff or baseflow, which could potentially migrate to nearby surface water bodies, which include the Little Colorado River, Tanner Wash, and small ponds used for livestock watering or irrigation. APS operates seepage intercept systems at the BAP and FAP which effectively capture seepage water before it migrates to surface water bodies through surface runoff. This pathway is considered incomplete.

The alluvial groundwater exposure pathway involves the migration of impacted groundwater to privately owned wells installed in the alluvial aquifer located off-site. The alluvial aquifer is not used as a water source due to high background TDS concentrations, and the viability of the C-aquifer as a water source. APS periodically reviews the Arizona Department of Water Resources (ADWR) well registry database to identify privately owned water supply wells located near the Site. No privately owned water supply wells completed in the alluvium have currently been identified and the naturally unsuitableness of the water quality and poor yield of the aquifer limits the likelihood that more wells would be installed in the alluvium in the future.

The C-aquifer is utilized as a potable water source both at the Site and off-site. The lower portions of the Moqui acts as a barrier to the vertical migration of impacted groundwater from the BAP and FAP to the C-aquifer. Additionally, groundwater elevations measured in wells installed in the C-aquifer indicate that an upward hydraulic gradient exists from the C-aquifer to the overlying confining unit. The upward hydraulic gradient acts as barrier to the downward vertical migration of impacted groundwater to the C-aquifer.

Assessment monitoring identified an SSL for cobalt in groundwater at the BAP and SSLs for arsenic, fluoride, lithium, and molybdenum in groundwater at the FAP. There are currently no known off-site receptors being impacted by groundwater contamination present in the alluvial aquifer downgradient of the BAP and FAP. Furthermore, there are no anticipated future impacts to receptors as the pathway conditions (lack of use of the shallow aquifer, limited migration pathways and upward gradient of the C-aquifer) are likely to continue to be relevant in the future.

Based on the evaluation of potential exposure pathways, current site conditions are protective of human health and the environment, consistent with the requirements of 40 CFR § 257.97(b)(1).

4. Remedy Selection

Groundwater remedy selection has occurred in multiple stages. This section summarizes the results of an ACM, which evaluated potentially feasible remedies for the Site, identifies Pre-Design Studies conducted to further assess those remedies and fill data gaps, documents an assessment of MNA feasibility, and presents selected remedies comprised of corrective measures that meet the performance standards of 40 CFR § 257.97(b) and consider the evaluation factors of 40 CFR § 257.97(c).

4.1 Assessment of Corrective Measures

In accordance with 40 CFR § 257.96 of the CCR Rule, an ACM must be completed within 240 days (with submitted extensions) of finding that an Appendix IV constituent has been detected at an SSL exceeding a GWPS. APS completed this assessment for the BAP and FAP in 2019 to identify and evaluate the potential for possible remedies to prevent further releases, remediate any releases that have occurred, and restore potentially affected areas (Wood 2019c).

In the ACM, potential technologies underwent initial screening based on assessed benefits, constraints, risks, and relative implementation durations. Technologies that were retained after this evaluation were used in combination to develop corrective measures alternatives to be evaluated by the factors presented in 40 CFR § 257.96(c).

Bottom Ash Pond. The technologies included in the corrective measures alternatives for the BAP were presented as two alternatives. The first alternative included the following technologies:

- Source control via draining/evaporation of free liquid within the BAP with closure of the unit in place or by CCR removal
- Operation of existing intercept trench seepage collection systems located downgradient of the dam
- MNA of the COC in the impacted aquifer

The second alternative included the technologies listed for the first alternative as well as:

- Groundwater containment wells or seepage trenches located adjacent to the BAP dams, with potential cut off walls

Both alternatives were assessed as having limited effectiveness in intercepting seepage prior to impacting the alluvial aquifer because of a poor understanding of the mechanisms responsible for introducing cobalt into the environment; cobalt was known to be present in alluvial groundwater but not in BAP free water. Both alternatives also had an estimated time to cleanup of over 100 years based on the groundwater modeling conducted as part of the ACM because containment strategies were constrained to APS properties, the volume of impacted groundwater downgradient of containment was significant, and potential boundary effects were noted in the model.

Fly Ash Pond. The technologies included in the corrective measures alternatives for the FAP at the time the initial ACM was prepared were presented in four alternatives. The first alternative included the following technologies:

- Source control via draining/evaporation of free liquid within the FAP with closure of the unit either in place or by CCR removal.
- Operation of existing intercept trench seepage collection systems.
- MNA of COCs in the impacted aquifer.

In addition to the three technologies listed for the first alternative, the second and third alternatives added containment wells/a seepage collection trench on the north side of I-40 and containment wells sited on the south side of I-40, respectively. The fourth alternative included the three technologies listed for the first alternative and added both containment wells/a seepage collection trench on the north side of I-40 and containment wells sited on the south side of I-40.

Based on the evaluation presented in the ACM, the primary distinguishing factor between the four corrective measures alternatives for the FAP was the time to achieve the GWPSs. The length of time that fluoride would exceed the GWPS following initiation of each alternative was assessed using the groundwater flow model developed as part of the ACM. Fluoride exceeded the GWPSs at the FAP for 44 years, 26 years, 36 years, and 22 years under the four alternatives, respectively.

Further evaluation and refinement of the groundwater corrective measures and unit closure plans have occurred since the completion of the ACM report. The groundwater Pre-Design Studies are discussed in the following section.

4.2 Pre-Design Studies and Interim Corrective Measures

Additional site characterization and Pre-Design Studies were performed prior to remedy selection to further evaluate the feasibility, effectiveness, and implementability of corrective measures retained from the ACM and to reduce key uncertainties prior to remedy selection. The Pre-Design Studies were developed to better characterize and evaluate the following:

- Site geology, hydrogeology, geochemistry, and groundwater quality
- Contaminant mass and the nature and extent of contaminants
- Performance of existing seepage intercept systems
- Feasibility and effectiveness of additional extraction wells and seepage intercept systems on hydraulic containment
- Feasibility and effectiveness of MNA to reduce contaminant mass and extents
- Feasibility of in situ treatment

The Pre-Design Studes were described in the Annual Groundwater Monitoring and Corrective Action Reports (GMCARs) (M&A 2018; Wood 2019a, 2020b, 2021a, 2022a; WSP 2023a, 2024, 2025a, 2026a) and a summary is provided in the following sections.

4.2.1 Bottom Ash Pond

Multiple field investigations and studies were completed to refine the understanding of aquifer characteristics and geochemical processes influencing cobalt fate and transport at the BAP. This section is a summary of the studies performed since the ACM.

Refinement of the Nature and Extent of Impacts on Groundwater Downgradient of the BAP

Eight monitoring wells (MW-71A, MW-72M, MW-73A, MW-74M, MW-76A, MW-77A, MW-78A, and MW-79A) were installed adjacent to, and downgradient of the BAP and five extraction wells (TDX-3, TDX-4, TSX-5, BSX-04, and BSX-05) were installed along the southern toe of the BAP. The wells were installed to evaluate the lateral and vertical extent of cobalt in the alluvial aquifer and to collect sediment samples to evaluate geochemical mechanisms related to the potential source of elevated concentrations of cobalt.

Geophysical surveys were conducted in the Tanner Wash stream channel upgradient (to the east) of MW-55A, off APS property, to provide non-invasive reconnaissance-level geological and hydrogeological characterization upgradient of the BAP.

Seepage Intercept System Evaluation, Upgrades, and Operation as Interim Response Measures

Inspections of the existing seepage intercept systems at the BAP were performed in December 2019 and June 2021 to evaluate the operational performance and ability to monitor the existing extraction wells and seepage intercept systems at the BAP (Wood 2022c).

Three extraction wells (TDX-3 through 5) were installed downgradient of the BAP along the southern base of the dam to augment the existing seepage intercept systems as part of the Toe Drain area. Extraction wells were installed in portions of the aquifer that targeted zones where higher seepage rates were anticipated to provide strategic points for interim corrective measures, (WSP 2023b). TDX-3 was installed to target seepage at the right abutment near the Toe Drain. TDX-4 and TDX-5 were installed to extract groundwater near the contact of the alluvium and Moqui.

Existing seepage intercept systems at the BAP were updated to optimize operations in 2024 (WSP 2025b). Significant scaling was discovered in the system during the upgrade resulting in a constrained cross-sectional pipe area and necessary replacement of the majority of the piping system and components.

BAP seepage intercept systems were operated as interim response measures after completion of the ACM to intercept seepage, evaluate operations and inform remedy selection.

Aquifer Testing

Aquifer testing was conducted at extraction wells TDX-3, TDX-4, TDX-5, and BSX-04 and monitoring wells W-307R, and MW-79A to characterize the aquifer properties and evaluate the effectiveness of extraction wells as hydraulic containment at the BAP.

Geochemical Characterization of Solid Matrix and Treatability Evaluation

Solid matrix sediment and aqueous samples were analyzed for parameters that further understanding of the aquifer system geochemistry as it relates to groundwater quality and interactions with aquifer sediments focused on cobalt fate and transport downgradient of the BAP. Results were used to evaluate natural attenuation processes and the feasibility of applying in situ treatment technologies at the BAP.

Bench-scale Testing

Bench-scale treatability studies were conducted to evaluate the feasibility of cobalt removal using chemical amendments, including RegenOx® + ORC®, sodium carbonate, and sodium hydroxide to evaluate the feasibility of in situ treatment as part of the corrective action strategy.

Groundwater Model of Alluvial Aquifer

A new groundwater model was developed to evaluate the fate and transport of COCs at the BAP. The model evaluated different hydraulic containment scenarios at the BAP including a variety of extraction well setups (location, numbers and extraction rates) and sorption as a geochemical mechanism for cobalt at the BAP.

4.2.2 Fly Ash Pond

Several field investigations and studies were completed to refine the understanding of aquifer characteristics and geochemical processes influencing fate and transport of COCs at the FAP. This section is a summary of the studies performed since the ACM.

Hydrogeologic Investigations

Aquifer testing was conducted at wells W-123, W-126, and MW-66A to characterize local hydrogeologic properties (hydraulic conductivity, transmissivity, aquifer thickness, and aquifer boundary conditions). Aquifer testing was also used to evaluate the extent of hydraulic connection within the uppermost aquifer and potential connections between the alluvial aquifer and Moenkopi Moqui formation downgradient of the FAP.

Evaluation of Groundwater Reduction-oxidation (Redox) Conditions

Groundwater samples collected from FAP downgradient wells during the second quarterly CCR monitoring event of 2020 were analyzed for several redox-sensitive constituents to evaluate the relationship between arsenic concentrations and redox conditions in groundwater downgradient of the FAP.

Cone Penetration Tests and Piezometer Installation at the FAP

Cone penetration tests were performed and vibrating-wire piezometers were installed downgradient of the FAP dam. The investigations evaluated soil properties, depth to bedrock, pore pressure conditions, and potentiometric levels in the alluvium and weathered portions of the Moqui immediately downgradient of the FAP along the toe. Results were used to evaluate improvements to the existing seepage intercept systems.

Seepage Intercept System Evaluation, Upgrades, and Operation as Interim Response Measures

Inspections of the existing Hunt and Geronimo seepage intercept systems at the FAP were performed in December 2019 and February-March 2020 to evaluate the operational performance and ability to monitor the existing extraction wells and seepage collection systems at the FAP to evaluate effectiveness and potential improvements.

During the seepage intercept system evaluation, GSX-1 was found to operate intermittently with a limited radius of influence, attributed to clogging of the well screen, and GSX-2 was found to be inoperable (Wood 2021c). The wells were abandoned and replaced with GSX-01R in 2021. GSX-01R was later fitted with an extraction pump and plumbed to the existing Geronimo Seepage Intercept System in 2022.

Extraction wells EW-01 through EW-04 were installed along the southeastern toe of the FAP in December 2021 to improve seepage collection in the area of the Geronimo Seepage Intercept System. The wells target the relatively thick zone of gravelly alluvium observed at the base of the alluvium during the cone penetration tests performed as part of the Pre-Design Studies. The extraction wells were fitted with pumps and plumbed to the Geronimo Seepage Intercept System in 2022.

Two investigative borings (INV-02 and INV-03) were drilled into the Moqui near the right and left abutments of the FAP dam to investigate the degree of saturation in the Moqui at these locations.

FAP seepage intercept systems were operated as interim response measures after completion of the ACM to intercept seepage, evaluate operations and inform remedy selection.

Groundwater Model of Alluvial Aquifer

A new groundwater model was developed to evaluate the fate and transport of COCs at the FAP. The model evaluated different hydraulic containment scenarios at the FAP including variety of extraction well setups (location, numbers and extraction rates).

Water quality trends will be additionally used to assess the attenuation of identified COCs through dilution and dispersion at distal portions of the identified COC plumes.

4.3 Selected Corrective Measures

Based on the results of the corrective measures assessment, Pre-Design Studies, and evaluation of interim corrective measure performance, remedies have been selected to address constituent concentrations exceeding GWPSs at the BAP and FAP. The selected remedies will be implemented in combination with the unit closure strategies described in Section 2, which provide source control by eliminating or minimizing ongoing releases from the BAP and FAP. Groundwater corrective measures are designed to address residual groundwater impacts downgradient of the CCR units.

The following subsections describe the selected corrective measures for the BAP and FAP remedies and discuss the rationale for their selection. Section 4.5 describes how the selected corrective measures will be monitored and refined through the ASM process during remedy implementation.

4.3.1 Hydraulic Containment

Hydraulic containment refers to the use of groundwater extraction wells and/or intercept trench systems to collect groundwater and remove it from the subsurface. These methods can induce a hydraulic gradient for capture and/or control of the migration of groundwater from the CCR unit to downgradient receptors. Hydraulic containment of groundwater has been selected as the primary corrective measure at both BAP and FAP for controlling contaminant migration and removing contaminant mass from the alluvial aquifer. Hydraulic containment was selected for the following reasons:

- Effective for intercepting the highest COC mass flux directly downgradient of each unit
- Removes COC mass from the impacted aquifer, which protects downgradient receptors and promotes attainment of GWPSs

Hydraulic containment systems incorporated in the selected remedies include operation of existing extraction wells and seepage intercept trenches. Extraction wells are considered in locations, on APS property, where existing infrastructure and plant operations maximize the benefit of this method of hydraulic containment. Seepage intercept trenches are considered in locations where the impacted groundwater is shallow, the effectiveness of extraction wells may be limited (due to hydrogeologic constraints), and the width of the impacted area covers a large area perpendicular to the groundwater flow direction with many preferential flow paths. Existing systems have been operated as interim corrective measures to evaluate their effectiveness.

4.3.1.1 Bottom Ash Pond

Hydraulic containment as part of the selected remedy at the BAP includes operation of existing extraction wells (where operation contributes successfully to containment) and multiple seepage intercept trench systems that target and intercept areas of known seepage (particularly along the Holbrook/Moqui contact and in the weathered Moqui near the dam system) (**Figure 15**). Downgradient property access constraints have limited the installation of additional hydraulic containment infrastructure since the original seepage intercept systems were installed. Potential future extraction wells (BSX-6 and BSX-7) will be located on downgradient property owned by APS to monitor and, if needed, contain the

leading edge of the cobalt-impacted groundwater plume as a contingency measure to address possible plume migration.

Existing Extraction Well and Intercept Trench Systems. The existing hydraulic containment system (initially constructed in the early 1990s) at the BAP extracts seepage/impacted groundwater from the vicinity of the BAP and directs it to an Evaporation Pond located east of the Cholla Reservoir. There are four areas targeted with seepage intercept systems located hydraulically downgradient of the BAP:

- **Toe Drain Area.** The Toe Drain Seepage Intercept System (Toe Drain System) is located on the southwestern edge of the BAP dam and originally consisted of a seepage intercept trench connected to a collection sump. In July 2024, the system was upgraded with the addition of three new extraction wells (TDX-3, TDX-4, and TDX-5), and the West Abutment seepage intercept trench was refurbished to improve seepage collection at the base of the dam and direct it to the Toe Drain sump. The average continuous pumping rate of the Toe Drain system typically ranges from 10 to 12 gallons per minute (gpm).
- **TWX Area.** The TWX Area Extraction Well System (TWX Area System) was installed downgradient of the eastern dam of the BAP, northwest of Tanner Wash. The seepage intercept system consists of eight extraction wells installed in alluvium. The average continuous pumping rate of the TWX Area Seepage Intercept System typically ranges from 2 to 5 gpm.
- **Petroglyph Area.** The Petroglyph Seepage Intercept System (Petroglyph System) was installed at the toe of the southeastern bend in the BAP dam. The seepage intercept system consists of approximately 250 ft of trench at 4- to 6-ft deep. The average continuous pumping rate of the Petroglyph System typically ranges from 1 to 2 gpm.
- **Tanner Wash Area.** The Tanner Wash Seepage Intercept System (Tanner Wash System) was installed downgradient of the bend in the dam of the BAP northwest of Tanner Wash. The seepage intercept system consists of approximately 280 ft of recently refurbished trench at 4 to 6 ft deep. The average continuous pumping rate of the Tanner Wash system typically ranges from 8 to 10 gpm.

The total extracted volume from the BAP systems in 2025 was 13,041,371 gallons for an average of 35,730 gallons per day (gpd) (**Table 5**). **Figure 30** shows the average daily flows for the BAP systems (Toe Drain, TWX, Petroglyph, and Tanner Wash Areas).

Future Leading Edge Extraction Well(s). Predictive modeling of cobalt concentrations downgradient of the BAP (M&A 2024) estimated that the existing hydraulic containment system would require more than 100 years to return the aquifer to compliance with the GWPS. To reduce the time expected to achieve the GWPS, additional extraction wells may be installed in the future. However, due to off-site property access issues, the only planned wells identified in this Report are sited on APS property at the leading edge of the impacted groundwater plume where extracted groundwater can be directed to existing on-site infrastructure (**Figure 15**). APS has made attempts to acquire off-site land/access for potential additional monitoring or extraction wells and extraction infrastructure without success. The location of future leading edge extraction wells is near MW-77A. Any extraction well or wells drilled in this area are planned as a contingency measure to address potential plume migration south of I-40. Wells will be

operated in the future if plume migration is indicated through performance monitoring. This area is adjacent to the piping that is used to direct BAP seepage/groundwater to the Evaporation Pond east of the Cholla Reservoir.

4.3.1.2 Fly Ash Pond

Like at the BAP, a combination of existing and future hydraulic containment systems will be incorporated into the selected remedy for the FAP. Existing hydraulic containment systems at the FAP were recently retrofitted and are designed to target groundwater in the alluvial aquifer located downgradient of the southeastern portion of the FAP dam, where the highest concentrations of arsenic, lithium, fluoride, and molybdenum are observed (**Figure 18**). Future additional extraction wells (HSX-2 through HSX-7) will be located in thicker portions of the alluvial aquifer on the south side of I-40 to increase extraction rates and reduce the time required to achieve GWPS throughout the plume area.

Existing Extraction Well and Intercept Trench Systems. The existing hydraulic containment system at the FAP extracts seepage/impacted groundwater from the vicinity of the FAP and directs it to the Evaporation Pond located east of the Cholla Reservoir.

Current hydraulic containment technology at the FAP includes the Geronimo and Hunt Seepage Intercept Systems, which are both located downgradient of the southeastern toe of the FAP dam. Originally constructed in the 1990s to intercept surface seepage observed near the former monitoring well W-123 (replaced with W-123R in 2021), APS has made several improvements to the Geronimo and Hunt seepage extraction systems to be used as a component of the selected remedy:

- **Geronimo.** Located north of I-40, the Geronimo Seepage Intercept System consists of five extraction wells (EW-01 – EW-04, and GSX-1R) and a network of seepage intercept trenches that discharge to two sumps, GSX-3 and GSX-4 (also known as (a.k.a.) Geronimo C and Geronimo D, respectively). The screened intervals of wells EW-01 through EW-04 and GSX-01R were designed to intercept the gravelly clay layer near the base of the alluvium, which is identified as the primary seepage pathway on the southeastern side of the cutoff wall located in the center of the FAP dam (Wood 2021d). The seepage intercept trenches are designed to intercept shallow groundwater near the southeastern-most extents of the toe of the FAP dam where shallow and artesian groundwater conditions have historically been observed. The average continuous pumping rate of the Geronimo Seepage Intercept System typically ranges from 2 to 8 gpm.
- **Hunt.** Located south of I-40, the Hunt Seepage Intercept System consists of a single extraction well, HSX-1 (a.k.a. Hunt B), and a seepage intercept trench which is designed to assist in containing the migration and extent of the existing COC plumes in the uppermost aquifer downgradient of the FAP by diverting seepage to the Hunt Seep Sump (a.k.a. Hunt A). Particularly, the Hunt system targets groundwater in the uppermost aquifer located downgradient of the southeastern portion of the FAP dam. The average continuous pumping rate of the Hunt Seepage Intercept System typically ranges from 1 to 7 gpm.

The total extracted volume from the FAP systems in 2025 was 4,975,999 gallons for an average of 13,474 gpd (**Table 6**). **Figure 31** shows the average daily flows for the FAP systems (Geronimo and Hunt systems).

Future Hunt Extraction Wells. Predictive modeling of the area around the FAP (conducted after the ACM) has indicated that operation of the existing hydraulic containment system has a cleanup time of less than 25 years (for fluoride and arsenic), 50-75 years (for molybdenum) and over 100 years (for lithium). An alternate predictive scenario was modeled utilizing six additional extraction wells (at 5 gpm each) located on APS property near the leading edge of the plumes to assess the potential for achieving GWPSs in a shorter timeframe. The estimated cleanup time for each COC with the additional wells is less than 25 years (for fluoride, arsenic, molybdenum) and 25-50 years (for lithium). APS plans to install these six new extraction wells downgradient of the FAP (HSX-02 through HSX-07; **Figure 18**) as part of the remedy for the FAP. Five of these extraction wells are located at or near the leading edge of the eastern arm of the lithium plume, to protect the downgradient receptor. One of the extraction wells is planned to be on the western arm of the plume to capture COCs that have seeped from the western portion of the FAP dam (**Figure 18**). These wells are planned to act as hydraulic containment of the portion of the plumes that are downgradient of the existing seepage collection systems.

4.3.2 Monitored Natural Attenuation Feasibility Evaluation

MNA has been a component of corrective action at Resource Conservation and Recovery Act (RCRA) and Comprehensive Environmental Response, Compensation, and Liability Act (Superfund) sites since the 1990s. MNA describes a range of physical, chemical, and biological processes in the environment that reduce the concentration, toxicity, or mobility of constituents in groundwater in the context of a carefully controlled and monitored site remedial approach. Attenuation mechanisms for inorganic constituents are either physical (e.g., dilution, dispersion, flushing, and related processes) or chemical (e.g., sorption, mineral precipitation, or through oxidation-reduction reactions) (USEPA 1999, 2007, 2015).

MNA is selected as a component of remedy selection for both the BAP and the FAP, providing supplemental corrective action to the hydraulic containment. The feasibility, mechanisms, rates, and stability of MNA as a remedy for groundwater impacts from BAP and FAP are described in the following subsections.

To assess the performance and reliability of MNA for the BAP and FAP, this evaluation follows USEPA guidance on using MNA as a remedial strategy (USEPA 2007) and considers best practices from the Interstate Technology Regulatory Council (ITRC) document *A Decision Framework for Applying Monitored Natural Attenuation Processes to Metals and Radionuclides in Groundwater* (ITRC 2010).

4.3.2.1 Bottom Ash Pond

Based on USEPA guidance, a tiered analysis was conducted to assess MNA downgradient of the BAP as follows:

- Tier 1: Demonstrate active constituent removal from groundwater and dissolved plume stability.

- Tier 2: Determine the mechanisms and rates of the operative attenuation processes.
- Tier 3: Determine the long-term capacity for attenuation and the stability of immobilized constituents.

An MNA checklist (**Table 7**) presents the elements of the analysis for the MNA feasibility evaluation and the characterization and documented resources for the demonstration. Evaluation of each of these tiers to document the feasibility for the BAP is summarized in the following sections.

4.3.2.1.1 Decreasing Contaminant Mass (Tier 1)

To address Tier 1, trends in contaminant mass were evaluated on an individual well basis and as a contaminant plume.

Changes in cobalt contaminant mass on an individual well basis were evaluated by analyzing cobalt trends using a Mann-Kendall (M-K) statistical analysis utilizing Sanitas™. The results of the M-K analysis are presented in **Table 8** and **Appendix A**. The analysis indicates decreasing trends at M-53A, MW-69A, MW-70M, MW-71A, MW-74M, and W-303 and a probable decreasing trend (indicated at a confidence factor of less than 95%) was identified at MW-73A. Stable or no significant trends were identified at M-52A, M-55A, MW-78A, W-302, W-305, and W-306. An increasing trend was identified at MW-77A, W-301, and W-314. Cobalt concentrations at the furthest downgradient location, MW-77A currently remain below the GWPS for cobalt (0.006 mg/L).

To evaluate changes in cobalt contaminant mass throughout the plume, a Groundwater Plume Analytics® analyses (**Appendix B**) was performed to provide an overall understanding of the contaminant mass and stability of the cobalt plume at the BAP. The evaluation included the following elements:

- Ricker Method® Plume Stability Analysis
- Center of Mass Movement Analysis
- Spatial Change Indicator™ Analysis (US Pat. No. 10,400,583)

The stability of the cobalt plume was evaluated by calculating the mass of the cobalt plume based on concentrations exceeding the GWPS. This analysis indicates the plume area is stable/decreasing with a M-K evaluation at 91% confidence and 71% regression confidence (**Figure 32**). Furthermore, it was determined that the plume had an approximate 8% decrease in area with an average cobalt concentration decrease of 32% from October 2021 to October 2025. The plume average concentration and mass indicator are decreasing based on the M-K evaluation at >99% confidence and >99% regression confidence (**Figure 33**).

Based on these findings, the Tier 1 assessment indicates that MNA is appropriate for cobalt at the BAP because the completed evaluations indicate that the contaminant plume is no longer increasing in extent, and predictive modeling indicates the plume will continue to decrease in extent, meeting the Tier I criteria in accordance with USEPA guidance.

4.3.2.1.2 Mechanism and Rate of Attenuation (Tier 2)

Tier 2 evaluates data to determine the mechanism and rate of attenuation to confirm contaminant concentrations can be reduced to below the GWPS. To this end, APS conducted a detailed geochemistry analysis to evaluate the primary mechanisms and rate associated with the fate and transport of cobalt downgradient of the BAP (WSP 2023c).

Site soil samples were collected and analyzed by acid digestion to evaluate concentrations of metals that are potentially environmentally available. Analysis also included total organic carbon, sulfate, sulfide and cation exchange capacity. Select sediment samples were analyzed for bulk and trace minerology to both identify and quantify minerals associated with the attenuation of cobalt through sorption or precipitation using x-ray diffraction and field emission scanning electron microscopy. Sediment samples were selected for six-step serial batch extraction (SBE) testing, which is used to assess the potential for cobalt attenuation via sorption, identifying the mechanism of sorption and its permanence. Iron speciation analyses for groundwater samples were also completed to serve as evidence of redox conditions controlling the fate and transport of metals that are attenuated by sorption to iron oxides.

The results of these analyses support the identification of the primary cobalt release mechanism contributing to elevated cobalt concentrations downgradient of the BAP. The BAP is not a direct source of cobalt but has indirectly caused the release of cobalt from native sediments by the saturation of site sediments and associated changes in geochemical conditions due to the infiltration of water, causing relatively more reducing conditions. Analyses also identified a viable cobalt attenuation mechanism being sorption onto iron and manganese oxides and oxyhydroxide minerals and coatings and a relatively fast rate of attenuation compared to the flow rate of groundwater.

Based on these findings, MNA is an appropriate corrective measure to address the observed concentrations of cobalt in groundwater downgradient of the BAP and site data meets the Tier 2 criteria for MNA in accordance with USEPA guidance.

4.3.2.1.3 System Capacity and Stability (Tier 3)

Selective sequential extractions (SSEs) completed for soils at the Site provide a quantitative assessment of the amounts and mechanisms for cobalt sorption, partitioning, and the potential for cobalt transport under changing geochemical conditions. Six-step SBE testing was also conducted for the Site's sediments to evaluate the potential for additional attenuation and permanence of cobalt on BAP sediments.

The SBE testing results at the BAP indicate that attenuation capacity via sorption and coprecipitation exists within the currently mapped cobalt plume and downgradient. The SSE results indicate the primary mechanism being associated with sorption on and coprecipitation with iron and manganese oxides as supported by mineralogical analyses and acid digestion total analyses of sediments. The SBE results were used to predict that expansion of the cobalt plume is limited to less than 100 ft during the next 30 years, indicating the plume is relatively stable. Cobalt attenuation capacity associated with sorption onto aquifer sediments was also extrapolated to the mass of the aquifer downgradient of the mapped cobalt plume along Tanner Wash to the railroad along the southwest border of the Plant. The extrapolation

showed that the aquifer has an attenuating capacity approximately 12 times the mass of cobalt requiring attenuation (WSP 2023c).

The sorption of cobalt by iron and manganese oxides is a stable attenuation mechanism, and the rate of sorption onto oxides is relatively fast. The amount of iron and manganese oxides in contact with groundwater, and ability to attenuate more cobalt via sorption, are predicted to increase and become more stable after BAP closure. The BAP is likely causing reducing conditions, which led to the dissolution of iron and manganese oxides and the ultimate release of cobalt from site soils. After the BAP is dewatered and closed, groundwater is expected to become more oxic, allowing the precipitation of iron and manganese oxides and supporting the attenuation.

MNA as a selected remedial alternative is supported by the observed attenuation of cobalt at the Site that is predicted to continue, as indicated by geochemical studies. The Tier 3 assessment evaluated data from field studies, including impacted site soil and groundwater. This assessment demonstrates the natural attenuation process occurring at the Site, the attenuation capacity and stability as well as the degradation of cobalt. The Tier 3 analysis confirms Site attenuation capacity of the aquifer and plume stability.

4.3.2.1.4 Performance Monitoring (Tier 4)

Following completion of this multitiered feasibility evaluation, the fourth and final tier (Tier 4) includes the development of a performance monitoring program, which will confirm the continued attenuation and effectiveness of MNA as the selected remedy for groundwater impacts throughout the plume.

Performance monitoring will include groundwater monitoring for cobalt and field constituents throughout the current cobalt plume. Constituent concentrations will be evaluated for decreasing trends to confirm continued attenuation of cobalt. Cobalt concentrations will be evaluated against model predicted attenuation to determine whether MNA continues to be effective as a supplemental remedy to hydraulic containment.

Performance monitoring is presented in detail in Section 6 and includes an ASM program that provides for additional evaluation or implementation of additional remedy alternatives (i.e., increased pumping or in situ injections) if certain triggers are identified. Under ASM data will be collected and evaluated to monitor the effectiveness of MNA throughout corrective action.

4.3.2.2 Fly Ash Pond

While there is supporting evidence for MNA through both physical and chemical processes downgradient of the FAP, there is currently insufficient data to support the three evaluation tiers, or lines of evidence, at an acceptable level to implement MNA as one of the primary corrective measures for this unit. However, consistent with USEPA guidance for the implementation of MNA for inorganics (USEPA 2015), inclusion of MNA, based on physical mechanisms alone (e.g., dispersion and dilution), in the selected remedy can be considered as a polishing step for low concentrations or distal portions of a groundwater COC plume in combination with an active remedy and source control when receptors are not currently being exposed.

Based on the results of the exposure pathway analysis summarized in Section 3.7, potential receptors are not currently being exposed to COC concentrations exceeding applicable GWPSs in surface and groundwaters (Wood 2020d). The analysis did not identify off-site risk receptors; however intermittent surface water bodies such as the Little Colorado River were identified as potential receptors for recreational use. As previously discussed in Section 3.6, the maximum extent of FAP COCs exceeding the GWPS in the alluvium hydrostratigraphic unit is approximately 2,600 ft away from the nearest potential receptor, the Little Colorado River. The maximum measured historical extent of the plume toward the Little Colorado River is at MW-65A, located approximately 3,590 ft from the Little Colorado River and 1,035 ft from the FAP dam.

Future exposure to potential receptors at the Little Colorado River to FAP COCs at concentrations exceeding the GWPS is unlikely due to the source control measures implemented. The FAP COCs (arsenic, fluoride, lithium, and molybdenum) trends are presented in **Figure 26, 27, 28,** and **29**, respectively.

To further support the protectiveness of the selected remedy, FAP COC plume stability was evaluated using an M-K statistical analysis. The statistical evaluation is conducted utilizing the Sanitas™ statistical software application. The analysis assessed FAP COC concentrations from data measured at wells located around the FAP (M-45A, M-46A, M-50A, M-51A, M-63A, M-65A, M-66A, W-123R, and W-126R). The results of the M-K analysis are presented in **Table 9** and **Appendix A**. The analysis indicates concentrations trends at locations where established trends are present.

Arsenic concentrations exceeded the GWPS (0.01 mg/L) at M-46A and M-51A in the alluvial aquifer and at W-125 in the C-aquifer during the second SA event in 2025. An increasing trend for arsenic has been identified at M-46A. However, this well is downgradient of MW-65A, which remains below the GWPS with stable arsenic concentrations. Arsenic concentrations at W-125 are historically below the GWPS and stable. An increasing trend has also been identified in downgradient location M-63A. However, arsenic concentrations at this monitoring well and at further downgradient locations MW-80A and MW-81A remain below the GWPS. MW-85C was recently installed in the C-aquifer and sampled eight times for an initial baseline sample set. The arsenic concentrations at MW-85C during initial sampling exceeded the GWPS and have an increasing trend. However, arsenic concentrations at the adjacent alluvial monitoring wells remain below the GWPS (**Appendix A**). Given the current extent of the arsenic plume attributable to the FAP and planned source control measures, arsenic concentrations are not anticipated to exceed the GWPS at the furthest downgradient monitoring location (M-63A).

Fluoride concentrations currently have no significant trends identified by the statistical analysis. Fluoride concentrations currently exceed the GWPS (4.0 mg/L) at M-51A, W-123R, and W-126R. Currently, the fluoride plume remains stable.

Lithium concentrations currently exceed the GWPS (0.418 mg/L) at M-50A, M-51A, MW-65A, MW-66A, W-123R, and W-126R. Decreasing trends for lithium concentrations have been identified at M-50A, M-51A, and M-63A. The remaining locations (M-46A, M-65A, M-66A, W-123R, and W-126R) have no identified trend for lithium concentrations. A decreasing lithium trend to the northwest of the cutoff wall (**Figure 23**) is indicated by this analysis and the lithium plume remains stable to the southeast of the

cutoff wall. The location with the highest detected concentration of 0.991 mg/L was at MW-65A during the second SA event in 2025, where lithium concentrations remain stable.

Molybdenum concentrations currently exceed the GWPS (0.010 mg/L) at M-51A, MW-65A, and W-126R. A decreasing trend has been identified for molybdenum at W-123R which is the furthest downgradient location to the southeast of the cutoff wall. No trends have been identified at M-46A, M-63A, M-66A, and W-126R indicating molybdenum concentrations remain stable. An increasing trend has been identified for molybdenum at M-50A, M-51A, and M-65A. These locations are to the northwest of the cutoff wall and molybdenum at M-50A is currently below the GWPS (**Figure 24**). These locations will continue to be monitored as the FAP continues to be dewatered and closure is complete. Following closure completion and source control, it is anticipated that molybdenum concentrations will decrease downgradient of the FAP.

As part of the selected remedy, a performance monitoring program was developed. This program will confirm the continued attenuation and effectiveness of MNA as a polishing step for hydraulic containment. The performance monitoring program will consist of a network of wells that provide adequate areal and vertical coverage to monitor groundwater chemistry throughout the uppermost aquifer downgradient of hydraulic containment operations. The monitoring network will monitor performance of the established corrective measures and provide an indication of issues prior to exposure to potential downgradient receptors. Under ASM outlined in Section 4.4, additional information will be collected to help support and monitor the occurrence of MNA during remedy implementation. This will include groundwater monitoring of COCs and field parameters.

Water quality trends will be additionally used to assess the attenuation of identified COCs through dilution and dispersion at distal portions of the identified COC plumes.

4.3.3 Adaptive Site Management

ASM will be incorporated into the selected remedies to address uncertainties, enhance effectiveness, and maintain protectiveness as additional information is collected during corrective action. After implementation, the remedies including hydraulic containment and MNA corrective measures will be referred to as the groundwater Corrective Action System (CAS). The purpose of ASM is to define objective, measurable data targets that may be used to evaluate and iteratively improve the effectiveness of the CAS. ASM is an iterative approach where the operation and performance of the CAS is routinely monitored and evaluated. If warranted, the CAS may be modified (i.e., adaptations of the CAS), expanded or supplemented with one or more additional systems of the technologies identified in this document (e.g., hydraulic containment). These modifications will be evaluated and implemented as soon as feasible to address issues identified with pre-defined performance criteria. These modifications are considered part of the selected remedies.

To support evaluation of remedy effectiveness under the ASM framework and to identify whether modifications may be warranted, the following performance standards have been established:

- Maintain hydraulic containment.

- Sustain declining concentrations of COCs throughout the plumes of impacted groundwater.
- Comply with GWPSs upgradient of downgradient receptors.
- Maintain plume stability upgradient of downgradient receptors.

Monitoring data will be collected, reviewed and evaluated against these performance standards. The short-term benchmarks used to evaluate remedy performance during ASM are considered interim performance standards. The remedy will be considered in interim performance monitoring until the long-term performance standard of achieving GWPSs throughout the impacted groundwater plumes is met. To evaluate if interim performance standards are being met, quantitative and measurable data (performance metrics) will be collected on a routine basis. Additional information regarding the interim performance standards and interim performance monitoring system is presented in Section 6.2. Based on this evaluation, adjustments may be made to the corrective measures as appropriate, supporting continuous improvements in site knowledge and remedy performance.

The ASM decision-making framework consists of the following elements:

- Routine system monitoring and evaluation of performance metrics
- Comparison of performance metrics to interim performance standards using adaptive triggers designed to prompt actions intended to improve performance
- Periodic reevaluation of both CAS performance metrics and the ASM process

Throughout remedy implementation, progress toward meeting the primary objective of corrective action will be evaluated through long-term performance monitoring. The long-term performance standard is compliance with GWPSs throughout the impacted groundwater plumes. Section 6.3 presents additional information regarding the long-term performance metrics and long-term performance monitoring.

Figure 34 illustrates the process that will be used to evaluate monitoring data, determine whether performance standards are met, and identify if adaptation of the CAS is warranted. Performance monitoring is an integral component of ASM. Details regarding performance monitoring are provided in Section 6 (Corrective Action Groundwater Monitoring Plan) of this Report.

The ASM process is applicable at all stages of corrective action as follows:

- Monitoring will occur, and system performance will be evaluated with respect to performance standards (Section 6) that signal a reevaluation of performance metrics or adjustment to the CAS may be warranted.
- If monitoring indicates performance standards have not been met (i.e., an adaptive trigger), those performance metrics will be reevaluated to determine whether modification of the CAS or consideration of additional corrective measures is warranted.
- Performance metrics, performance standards, adaptive triggers, or corrective action components may be adjusted, as appropriate.

- The CSM will be updated as relevant data are obtained.
- Implementation of the CAS and ASM process will continue until all performance standards are met.

4.3.3 Adaptive Triggers

Analyses of performance metrics will be evaluated as described in Section 6. Should this analysis indicate a performance standard has not been met, an adaptive trigger condition (**Table 10**) will signify that reevaluation of how CAS performance is assessed is warranted and adaptation of the CAS may be required. Adaptive triggers for the CAS include the following:

- Groundwater levels in one or more performance wells are insufficiently low at extraction wells/sumps or performance monitoring wells surrounding extraction wells/sumps and indicate a loss of containment.
- Extraction pump run times/flow rates/flow volumes at extraction wells/sumps indicate inconsistent operations and indicate a loss of containment or malfunctioning instrumentation.
- Increasing trends in COC concentrations at performance monitoring wells upgradient or immediately downgradient of containment operations indicate a loss of containment or a new source of contamination.
- COC concentrations exceed GWPSs upgradient of downgradient receptors and indicate a potential future risk to identified receptors.
- Increasing trends of COC concentrations, plume mass, or extents of impacts at performance monitoring wells upgradient of downgradient receptors indicate a potential future risk to identified receptors.
- Changes in pH, oxidation-reduction potential (ORP), and dissolved oxygen (DO) at performance monitoring wells upgradient of downgradient receptors indicate unfavorable conditions for MNA and a potential future risk to identified receptors.

As CAS performance is evaluated over time, modification and/or supplementation of these adaptive triggers may be required to improve CAS performance. Modifications will be documented in the GMCAR that is compiled each year.

4.3.4 Corrective Action System Adaptation

If it is determined based on performance monitoring that the performance standards are not being met, then the CAS adaptations will be implemented. The selected remedies will be adapted, optimized, or changed to address the identified trigger condition. Documentation of assessments supporting a need to modify the remedy and a schedule to implement appropriate adaptations will occur in the annual GMCAR.

As presented in **Table 10**, CAS adaptations will be data driven and could include (but are not limited to) any of the following:

- Identification/replacement of malfunctioning equipment
- Increasing the capacity of pumping equipment
- Increasing the frequency of monitoring
- Expansion of containment operations via the installation of additional extraction wells/trenches
- Investigation of alternative sources of contamination
- Expansion of the MNA groundwater monitoring system via the installation of additional monitoring wells
- Investigation of the use of chemical amendments (such as those included in the bench-scale testing) to the groundwater or sediment

5. Remedy Performance Demonstration

The groundwater remedies for the Site shall meet the requirements of 40 CFR § 257.97(b):

- Be protective of human health and the environment.
- Attain applicable GWPSs as specified in the CCR Rule.
- Control the source of release to reduce or eliminate, to the extent feasible, further releases to the environment.
- Remove from the environment as much of the contaminated material that was released from the CCR unit as is feasible, taking into account factors such as avoiding inappropriate disturbance of sensitive ecosystems.
- Comply with any relevant standards (i.e., all applicable RCRA requirements) for management of wastes generated by the remedial actions.

The following sections describe how the selected remedies meet these performance requirements.

5.1 Bottom Ash Pond

5.1.1 Protective of Human Health and the Environment

A remedy is protective of human health and the environment when a quantitative assessment of risk indicates that environmental media are at or below regulatory and/or risk-based benchmarks for protection of human health and the environment.

As indicated in the groundwater risk exposure evaluation prepared for the Site (Wood 2020d), current conditions at the BAP are protective of human health and the environment because there are no human and environmental receptors being exposed to groundwater contamination. The alluvial aquifer has a low resource value due to elevated TDS concentrations and low productivity. Since unit closure and the proposed remedy will improve groundwater quality over time and result in a reduction in COC concentrations, the proposed remedy is anticipated to be protective of human health and the environment as required by 40 CFR § 257.97(b)(1) in the future. Further, APS will continue an ongoing review of the ADWR well registry database (Wells 55 database) to identify privately owned water supply wells located near the Site and ensure that the remedy remains protective. APS will use ASM to assess protectiveness during remedy implementation and take actions to ensure continuing protectiveness, as warranted.

On the basis that current conditions are protective, that closure efforts and the groundwater remedy should address existing concentrations of COCs that could pose a future risk to human health and the environment, and that measures are being implemented to assess and address future risks if needed, the remedy meets the requirements of 40 CFR § 257.97(b)(1).

5.1.2 Attainment of Groundwater Protection Standards

This Report describes the approach that will be used to achieve the GWPS in impacted groundwater associated with the BAP including the closure activities described in Section 2.3, the hydraulic containment of elevated concentrations of COC in the groundwater, MNA of the plume, and ASM.

Existing data demonstrates that hydraulic containment and natural attenuation processes are working to decrease the concentrations of cobalt downgradient of the BAP. Concentrations of cobalt in the plume and cobalt mass have decreased between 2021 and 2025 as described in Section 4.2.2.1. However, APS is limited in fully implementing hydraulic containment (i.e., additional extraction wells) since they do not own or have access to most of the land across the full extent of the plume. This limitation contributes to longer timeframes to attain the GWPS for cobalt across the full extent of the plume.

A groundwater model evaluating cobalt sorption only (M&A 2024) predicts the timeframe to attain the GWPS for cobalt downgradient of the BAP will exceed 100 years (top blocks on **Figure 35**). APS has explored and identified additional hydraulic containment on off-site property to decrease the timeframe to attain GWPS for cobalt including a scenario with 14 extraction wells extracting 5 gpm each (bottom blocks in **Figure 35**). This modeling indicates that additional hydraulic containment should promote reducing the plume extent and decreasing the remedial timeframe to achieve cobalt concentrations below the GWPS; however, even with this increased extent of groundwater extraction, the GWPS is not achieved throughout the plume in less than 100 years and a significant mechanism responsible for treatment is dewatering (not treatment) of the aquifer.

As described in Section 3.6.1, cobalt present in groundwater downgradient of the BAP is not attributed directly to the BAP, but rather from mobilization of cobalt from underlying sediments due to changing redox conditions caused by the seepage of water from the BAP. Closure of the BAP by removal will result in reversing the contribution of seepage from the BAP to the aquifer, returning redox conditions to pre-unit construction conditions. This effort should contribute to cobalt stabilization in the alluvial aquifer. Although the effect of closure by removal of the BAP on remediation timeframes is difficult to predict, the remedy, which includes ASM will promote iterative assessment of these effects and promote the use of additional corrective measures that may become available in the future to help achieve a reduced remedial timeframe.

On the basis that response actions conducted to date have contributed to declining cobalt concentrations in groundwater that are expected to continue, a closure approach is being implemented that addresses the primary mechanism for cobalt mobilization, and the remedy includes ASM to monitor performance and address future identified issues, the remedy meets the requirements of 40 CFR § 257.97(b)(2).

5.1.3 Source Control

In conjunction with the groundwater remedy, the source of contamination must be controlled to reduce or eliminate, to the maximum extent feasible, further releases by identifying and locating the cause of the release. As discussed in Section 2.1, unit closure by dewatering and removal will eliminate discharges to groundwater from the BAP. The elimination of discharges from the BAP to the aquifer will mitigate the mobilization of cobalt into the environment by returning redox conditions to pre-unit construction conditions. Free water levels in the BAP have been decreasing for years. As of the end of June 2025, when discharges to the BAP ceased, there has been a significant drop in surface water levels (**Figure 36**). This trend is expected to continue as closure progresses.

On the basis that unit closure will remove the mechanism responsible for the release of cobalt into the aquifer, the remedy meets the requirements of 40 CFR § 257.97(b)(3).

5.1.4 Contaminant Mass Removal

The groundwater extraction portion of the remedy removes contaminant mass (i.e., cobalt) from the impacted aquifer by extracting groundwater with elevated contaminant concentrations. Operation of the BAP extraction wells and intercept trenches contributed to the removal of approximately 0.90 pound (lb) of cobalt from the aquifer in 2025 (WSP 2026a) and the Groundwater Plume Analytics® analyses indicated an overall decrease in contaminant mass and concentration (**Figure 30**).

Since groundwater extraction operations are being implemented on APS property, there are no sensitive ecosystems to disturb as part of remedy implementation.

On the basis that the selected remedy removes residual contaminant mass from groundwater remaining in the aquifer after closure of the unit by removal and avoids inappropriate disturbance of sensitive ecosystems, the remedy meets the requirements of 40 CFR § 257.97(b)(4).

5.1.5 Compliance with Waste Management Requirements

As specified in the requirement of 40 CFR § 257.97(b) (5), any waste must be handled and disposed of according to all applicable requirements under RCRA.

The corrective measures selected in the remedy will generate limited waste volumes. The hydraulic containment system currently collects water and pumps it to a lined evaporation pond to evaporate. With respect to groundwater extracted during groundwater monitoring activities, the SAP (Wood 2022b) guidance that specifies the handling and disposal of waste, including containerization and management of investigation-derived waste, will be followed.

On the basis that waste generated during remedy implementation will be evaporated on-site, the remedy meets the requirements of 40 CFR § 257.97(b)(5).

5.2 Fly Ash Pond

5.2.1 Protective of Human Health and the Environment

A remedy is protective of human health and the environment when a quantitative assessment of risk indicates that environmental media are at or below regulatory and/or risk-based benchmarks for protection of human health and the environment.

As indicated in the groundwater risk exposure evaluation prepared for the Site (Wood 2020d), current conditions at the FAP are protective of human health and the environment because there are no human and environmental receptors being exposed to groundwater contamination. The alluvial aquifer has a low resource value due to elevated TDS concentrations and low productivity. Since unit closure and the proposed remedy will improve groundwater quality overtime and result in a reduction in COC concentrations, the proposed remedy is anticipated to be protective of human health and the environment as required by 40 CFR § 257.97(b)(1) in the future. Further, APS will continue an ongoing review of the ADWR well registry database (Wells 55 database) to identify privately owned water supply wells located near the Site and ensure that the remedy remains protective. APS will use ASM to assess protectiveness during remedy implementation and take actions to ensure continuing protectiveness, as warranted.

On the basis that current conditions are protective, that the remedy should address existing concentrations of COCs that could pose a future risk to human health and the environment, and that measures are being implemented to assess and address future risks if needed, the remedy meets the requirements of 40 CFR § 257.97(b)(1).

5.2.2 Attainment of Groundwater Protection Standards

This Report describes the approach that will be used to achieve the GWPS in impacted groundwater associated with the FAP including the closure activities described in Section 2.2, the hydraulic containment of elevated concentrations of COCs in the groundwater, MNA in distal portions of the plume, and ASM.

Existing data demonstrate that hydraulic containment and natural attenuation processes are working to decrease the concentrations of COCs downgradient of the unit. Concentrations of lithium and fluoride at the monitoring wells downgradient of the FAP currently display decreasing or stable trends, while arsenic concentrations have displayed increasing or stable trends and molybdenum has displayed a mix of trends (as noted in Sections 3.5.2 and 4.3.2). The extent of the plume for all these COCs has displayed an overall decrease over time.

The numerical groundwater model indicates that the estimated time to reduce COC concentrations in groundwater downgradient of the FAP to below the GWPS is less than 25 years for arsenic, fluoride and molybdenum and 25 to 50 years for lithium with the addition of added extraction wells. Results of the model for lithium, with the longest time to achieve results below the GWPS, are shown in **Figure 37** for the base scenario and the scenario including extracting 30 gpm with six new extraction wells. Given the

results of the model, APS is planning to install the additional extraction wells and will use ASM to assess remedy performance during remedy implementation. APS will take actions to ensure the remedy is progressing toward the long-term performance standard of compliance with GWPSs, as warranted.

On the basis that response actions conducted to date have contributed to significant declines in COC concentrations in groundwater, a groundwater model predicts a reasonable timeframe to attain GWPSs, and measures are being implemented to monitor performance and address future identified issues, the remedy meets the requirements of 40 CFR § 257.97(b)(2).

5.2.3 Source Control

In conjunction with a remedy, the source of the contamination must be controlled to reduce or eliminate, to the maximum extent feasible, further releases by identifying and locating the cause of the release. As discussed in Section 2.2, unit closure will eliminate potential discharges to groundwater as required by 40 CFR § 257.97(b) (3) by limiting infiltration of precipitation into the unit with a protective cover system and appropriate stormwater management and by reducing the potential for seepage from the unit to the surrounding area via pore water dewatering. Post-closure care of the FAP will be conducted and the cover system will be monitored for non-native invasive vegetation, excessive settlement, and excessive erosion. The stormwater drainage system will be monitored for excessive erosion and sediment build-up.

The elimination of discharges from the FAP to the groundwater will control the release of constituents including COCs into the environment. The closure activities are anticipated to improve groundwater quality by mitigating the rate of seepage from the unit. Free water levels in the FAP have been decreasing for years and there has been a significant drop in surface water levels due to active unit dewatering (**Figure 38**).

On the basis that source control will be completed with unit closure and the selected remedy complements this activity, the remedy meets the requirements of 40 CFR § 257.97(b)(3).

5.2.4 Contaminant Mass Removal

The groundwater extraction portion of the remedy removes contaminant mass (i.e., arsenic, fluoride, lithium, and molybdenum) from the impacted aquifer by extracting groundwater with elevated contaminant concentrations. Operation of the FAP extraction wells and intercept trenches contributed to the removal of approximately 0.50 lb of arsenic, 276.4 lbs of fluoride, 30.3 lbs of lithium, and 10.3 lbs of molybdenum from the aquifer in 2025 (WSP 2026a).

Since groundwater extraction operations are being implemented on APS property, there are no sensitive ecosystems to disturb as part of remedy implementation.

On the basis that the selected remedy removes residual contaminant mass from groundwater remaining in the aquifer after closure of the unit in place and avoids inappropriate disturbance of sensitive ecosystems, the remedy meets the requirements of 40 CFR § 257.97(b)(4).

5.2.5 Compliance with Waste Management Requirements

As specified in the requirement of 40 CFR § 257.97(b) (5), any waste must be handled and disposed of according to all applicable requirements under RCRA.

The corrective measures selected in the remedy will generate limited waste volumes. The hydraulic containment system currently collects water and pumps it to a lined evaporation pond to evaporate. With respect to groundwater extracted during groundwater monitoring activities, the SAP (Wood 2022b) guidance that specifies the handling and disposal of waste, including containerization and management of investigation-derived waste, will be followed.

On the basis that waste generated during remedy implementation will be evaporated on-site, the remedy meets the requirements of 40 CFR § 257.97(b)(5).

6. Corrective Action Groundwater Monitoring Program

As required by 40 CFR § 257.98(a) the owner/operator must implement the groundwater remedy within 90 days of selecting a remedy, including establishing a Corrective Action Groundwater Monitoring Program that 1) meets the assessment monitoring requirements of § 257.95; 2) documents the effectiveness of the remedy; and 3) demonstrates compliance with the GWPS. Multiple monitoring wells are already in place at the Site to monitor groundwater conditions beneath the subject CCR units and support ongoing assessment of impacts. This section establishes the Corrective Action Groundwater Monitoring Program and identifies how the existing monitoring network will be used to achieve the requirements identified in 40 CFR § 257.98(a).

An update of the SAP (WSP 2022b) will be completed as part of Corrective Action Groundwater Monitoring Program implementation to align sitewide CCR groundwater compliance monitoring with the locations, parameters, data evaluation and reporting sections outlined in this Report.

6.1 Assessment Monitoring

Assessment monitoring at the BAP and FAP will continue at the CCR compliance background and downgradient boundary well locations identified in the Certified Monitoring Systems for each of these units. These wells are identified in **Figure 2**. At a minimum, these wells will be gauged for water level as part of each sampling effort and monitored for all Appendix IV constituents on an annual basis and detected Appendix IV constituents as well as Appendix III constituents on an SA basis. As has been the case since approximately 2021, APS may simplify this logistic effort during Corrective Action Groundwater Monitoring by monitoring for all Appendix III and Appendix IV constituents at assessment monitoring wells on an SA basis as identified in **Tables 13** and **14**.

6.2 Interim Remedy Performance Monitoring

As identified in Section 4.3, ASM will be used to assess compliance with interim performance standards while the remedies progress toward the long-term performance standard of compliance with GWPSs. For evaluation of compliance with interim hydraulic containment and MNA performance standards (see **Table 10**), each unit's monitoring system has been assessed, and monitoring locations/parameters have been identified that will support evaluating whether a particular interim performance standard is met. The following sections describe the interim performance standards and metrics for evaluating the effectiveness of the remedies, the monitoring system developed to collect and evaluate the data, and how the evaluations will demonstrate effectiveness.

6.2.1 Performance Standards and Metrics

To support evaluation of remedy effectiveness during interim remedy performance monitoring, the following interim performance standards have been established:

- Maintain hydraulic containment.
- Sustain declining concentrations of COCs throughout the plumes of impacted groundwater.
- Comply with GWPSs upgradient of downgradient receptors.
- Maintain plume stability upgradient of downgradient receptors.

The CAS monitoring plan was developed with the rationale described below for each performance standard.

To monitor maintenance of hydraulic containment:

- Groundwater levels in the containment system extraction wells and surrounding performance monitoring wells will be monitored on an SA basis to demonstrate that extraction wells are effectively lowering the groundwater table to levels that promote and maintain hydraulic containment.
- Extraction pump hour, flow rate, and flow volume monitoring will also be performed on a monthly basis to demonstrate that consistent and effective operation of extraction pumps is maintained.
- COC concentrations at containment system performance monitoring wells located downgradient/side gradient of containment operations will be monitored on an annual basis to assess trends which could be indicative of a loss of hydraulic containment.

To monitor declining concentrations of COCs:

- Evaluate COC concentrations in extraction system and system performance monitoring wells throughout impacted groundwater over time to track declining concentrations of COCs.

To monitor compliance with GWPSs upgradient of downgradient receptors:

- Evaluate COC concentrations over time in performance monitoring wells located upgradient of receptors for comparison to the GWPS, in accordance with the Statistical Data Analysis Work Plan (SDAWP).

To monitor plume stability upgradient of downgradient receptors:

- Evaluate COC concentrations over time in performance monitoring wells located upgradient of receptors for statistical trend analysis of COCs in groundwater (in accordance with the SDAWP) to demonstrate that concentrations are stable or declining.
- Evaluate field parameters, such as pH, ORP and DO, in comparison to baseline conditions to demonstrate conditions continue to be favorable for MNA.

- Evaluate plume mass and extents in groundwater to demonstrate conditions are stable or decreasing.

6.2.2 Monitoring System

A summary of the performance monitoring locations and intended purpose are presented in **Table 11** (BAP) and **Table 12** (FAP). The specific parameters to be collected at each monitoring location are identified in **Table 13** (BAP) and **Table 14** (FAP); these locations are also presented in **Figures 39** and **40**, respectively.

6.2.2.1 Bottom Ash Pond

At the BAP (**Table 13** and **Figure 39**), the remedy is projected to make progress to achieve compliance with the long-term performance standard in a 30-year timeframe. Interim performance monitoring includes SA monitoring of water level and water quality parameters, which provides sufficient temporal resolution to evaluate long-term plume response and remedy performance while accounting for seasonal and operational variability.

The wells selected for analyses provide sufficient coverage of COC-impacted groundwater to support tracking of plume extent, plume mass, and hydraulic containment performance. Since the only COC currently at this unit is cobalt, this parameter will be the focus of performance monitoring of groundwater quality. Field parameters will be collected at the same time, such as well depth to water, temperature, pH, specific conductance, DO, and ORP. Monitoring of extraction system operations (e.g., flow rate and pump operating hour monitoring) will be conducted on a monthly basis.

Extraction system monitoring locations will not be included as part of water quality evaluations as the data collected from these types of wells are not representative of a single point in the aquifer. Also, evaluation of COCs in groundwater at monitoring locations that are solely designed to provide water level information only (i.e., piezometers) will not be conducted on the basis that these locations are not comparably constructed to monitoring wells. Cobalt concentrations in extraction operations will be evaluated on an annual basis to estimate the quantity of contaminant mass removed from the aquifer each year.

6.2.2.2 Fly Ash Pond

At FAP (**Table 14** and **Figure 40**), the remedy is projected to achieve compliance with the GWPSs in a within a 30-year timeframe. Interim performance monitoring includes SA monitoring of water level and water quality parameters, which provides sufficient temporal resolution to evaluate long-term plume response and remedy performance while accounting for seasonal and operational variability.

The wells selected for analyses provide sufficient coverage of COC-impacted groundwater to support tracking of plume extent, plume mass, and hydraulic containment performance. The COCs currently at this unit are arsenic, fluoride, lithium, and molybdenum and will be the focus of performance monitoring of groundwater quality. Field parameters will be collected at the same time, such as well depth to water,

temperature, pH, specific conductance, DO, and ORP. Monitoring of extraction system operations (e.g., flow rate and pump operating hour monitoring) will be conducted on a monthly basis.

Extraction system monitoring locations will not be included as part of water quality evaluations as the data collected from these types of wells are not representative of a single point in the aquifer. Also, evaluation of COCs in groundwater at monitoring locations that are solely designed to provide water level information only (i.e., piezometers) will not be conducted on the basis that these locations are not comparably constructed to monitoring wells. Arsenic, fluoride, lithium, and molybdenum concentrations in extraction operations will be evaluated on an annual basis to estimate the quantity of contaminant mass removed from the aquifer each year.

6.2.3 Demonstration of Effectiveness

The performance standards established for the CCR units are designed to collectively demonstrate that the selected remedy is effectively controlling groundwater impacts, reducing contaminant mass, and protecting downgradient receptors. Achievement of the performance standards provides multiple, independent lines of evidence confirming remedy effectiveness.

6.2.3.1 Bottom Ash Pond

At the BAP, hydraulic containment will remove cobalt mass from the aquifer by extracting groundwater at the CCR unit boundary in a targeted fashion and potentially, at the leading edge of the groundwater plume, just south of I-40. This corrective measure also contributes to groundwater plume remediation by limiting further migration of elevated concentrations of cobalt. To ensure that these concentrations are protective of downgradient receptors (i.e., users of the Little Colorado River) and stable/declining due to natural attenuation processes, MNA is being implemented as part of the remedy and will be evaluated on an annual basis to demonstrate compliance with interim performance standards.

Hydraulic containment and MNA can be considered effective and supporting of groundwater plume remediation when the CAS demonstrates the following:

- Extraction systems are consistently lowering groundwater elevations downgradient of the BAP, confirming that inward hydraulic gradients are being maintained and that further downgradient migration of cobalt is being prevented.
- Cobalt concentrations are not increasing downgradient or side gradient of containment operations. The absence of increasing trends demonstrated via statistical analysis indicates that the remedy remains effective and that plume migration is controlled.
- Compliance with the GWPS in the C-aquifer and in the alluvial aquifer upgradient of the Little Colorado River.
- The cobalt plume is stable or contracting in downgradient areas where active extraction is not implemented.
- Natural geochemical processes are effectively limiting cobalt mobility.

Section 6.4 details data analysis, statistical methods, and evaluations.

6.2.3.2 Fly Ash Pond

At the FAP, hydraulic containment will remove COC mass (i.e., arsenic, fluoride, lithium, and molybdenum) from the aquifer by extracting groundwater at the CCR unit boundary and the leading edge of the plume in a targeted fashion. Hydraulic containment at the FAP also contributes to groundwater plume remediation by limiting further migration of elevated concentrations of COC mass further downgradient toward the vicinity of Cholla Lake. To ensure that these concentrations are protective of downgradient receptors and stable/declining due to natural attenuation processes, MNA is being implemented as a polishing step and will be evaluated on an annual basis in accordance with interim performance standards.

Hydraulic containment and MNA can be considered effective and supporting of groundwater plume remediation when the CAS demonstrates the following:

- Extraction systems are consistently lowering groundwater elevations downgradient of the FAP and south of I-40, confirming that inward hydraulic gradients are being maintained and that further downgradient migration of COCs is being prevented.
- COC concentrations are not increasing downgradient of extraction systems. The absence of increasing trends demonstrated via statistical analysis indicates that the remedy remains effective and that plume migration is controlled.
- Compliance with GWPSs in the C-aquifer and in the alluvial aquifer upgradient of the Little Colorado River.
- COC plumes are stable or contracting in downgradient areas where active extraction is not implemented.

Section 6.4 details data analysis, statistical methods, and evaluations.

6.3 Long-Term Performance Monitoring

The long-term performance standard of compliance with GWPSs must be achieved throughout the impacted aquifer. Therefore, each monitoring well that is in the performance monitoring program and that has indicated a concentration that exceeds a GWPS will be included in assessing this standard. Only COCs will be evaluated as part of this evaluation. Extraction system monitoring locations will not be included as part of this analysis, as the data collected from these types of wells are not representative of a single point in the aquifer. Also, evaluation of COCs in groundwater at monitoring locations that are solely designed to provide water level information only (i.e., piezometers) will not be conducted on the basis that these locations are not comparably constructed to monitoring wells.

6.4 Data Analysis and Evaluation of Remedy Performance

As part of Corrective Action Groundwater Monitoring Program implementation, the SDAWP (WSP 2023e) will be updated. Performance monitoring activities will be conducted on an SA basis concurrent with assessment monitoring activities. The results of data analysis will be used to inform ASM and could result in changes to the monitoring system (e.g., an increase in monitoring frequency or expansion of monitoring). These changes will be documented in the GMCAR and incorporated in SAP and SDAWP updates as warranted. The performance evaluations will be conducted on an annual basis in advance of GMCAR preparation. Corrective Action Groundwater Monitoring Program data and evaluation of performance will be presented on an annual basis in the GMCAR for the associated reporting year.

6.4.1 Evaluation of Performance Monitoring Data

Data collected as part of CAS performance monitoring will be evaluated to provide status and documentation of the effectiveness of the remedy and presented in the GMCAR.

The following data analysis and evaluations will be used to assess the effectiveness of the remedy:

- Statistical evaluations for corrective action
- Plume stability and mass
- Temporal concentration trends

A component of these evaluations is the identification of potentially less-than-optimal conditions, if present, or an indicator the remedy is not effectively remediating the plume.

6.4.1.1 Statistical Evaluations for Corrective Action

The measured concentrations of COCs will be statistically compared to the GWPS following the procedure outlined in the SDAWP (WSP 2023e) for the identified CCR unit. Statistical analysis will be performed to review if groundwater concentrations are present at a statistically significant level above or below the GWPS (**Table 10**).

6.4.1.2 Plume Stability and Mass

Plume stability refers to the degree to which the lateral and vertical extent of groundwater impacts (COCs above GWPS) is not increasing over time and is stable or contracting, as evaluated using consistent spatial and temporal methods. Plume mass refers to an estimate of the total mass of a COC within a defined plume footprint and saturated thickness over time, developed using a consistent, repeatable method to support trend evaluation.

Plume stability is evaluated by assessing changes in plume geometry and concentration distribution over time. Contaminant mass is evaluated to assess whether the remedy is reducing the overall mass of

COCs present in groundwater. Mass estimates are developed using a consistent methodology across monitoring events and are intended to support trend-based performance evaluation, rather than precise quantification.

An evaluation of extent of COC concentrations exceeding the GWPS will be performed on an annual basis using the monitoring locations included in the corrective action monitoring plan. The extent of the groundwater impact will be evaluated spatially using the GWPS as the outer estimated bounds of the plume. The interpreted horizontal (aerial) extent of the plume, using contouring of COC concentrations in groundwater, will be reviewed on an annual basis. The contaminant mass and migration will be evaluated by performing an analysis such as Groundwater Plume Analytics® to compare relative changes in contaminant plume characteristics over time, including area, average concentration, and mass indicator.

A plume is considered contracting or stable when temporal changes in the calculated values of area, average concentration, and mass result in an overall decreasing or stable trend. An increasing trend in any of these values may indicate that the plume is not stable and/or is possibly expanding. These trends will be reviewed on an annual basis and reductions in total plume mass over time would indicate that the remedy is effectively reducing contaminant loading to the aquifer and supports continued implementation of the selected remedy.

6.4.1.3 Temporal Concentration Trends

Temporal trend analysis is used as a supporting performance indicator to assess whether groundwater conditions are improving, stable, or deteriorating over time at specific locations in a manner consistent with the remedy performance standards. The concentrations of COCs in samples collected from the corrective action monitoring plan network will be statistically evaluated for a potential trend using USEPA-supported statistical trend analyses. It is noted that this evaluation may determine the absence of a statistically discerned trend, or the determination of a statistically increasing or decreasing trend at a specific confidence level (e.g., 95% confidence level).

Temporal concentration trends provide insight into the direction, magnitude, and persistence of groundwater quality changes at individual monitoring locations and across the monitoring network. When evaluated in tandem with plume geometry and mass, trend behavior supports conclusions regarding progress toward reducing COC concentrations to below the GWPS, and the consistency of observed conditions with anticipated performance of the remedy.

Trend evaluations are interpreted within the context of site-specific hydrogeology, remedy configuration, and monitoring well placement, recognizing that different portions of the plume may respond to the remedy at different rates. Short-term variability attributable to seasonal groundwater fluctuations, sampling variability, or analytical uncertainty will be considered when interpreting trends.

For purposes of remedy performance evaluation, temporal trends are generally interpreted as follows:

- Decreasing trends at source-area, mid-plume, or downgradient wells generally support a conclusion that the remedy is reducing COC concentrations or limiting contaminant loading, consistent with remedy performance standards.
- Stable trends may indicate effective plume control or a transition period following remedy implementation, particularly for remedies that rely on attenuation or long-term processes.
- Increasing trends, particularly if sustained over multiple monitoring events and observed at downgradient or sentinel wells, may indicate that remedy performance standards are not being fully achieved and warrant further evaluation.

These trends will be reviewed on an annual basis and stable or decreasing trends would indicate that the remedy is effectively reducing contaminant loading to the aquifer and supports continued implementation of the selected remedy. Trend analysis will not be performed or may be discontinued for individual wells indicating concentrations in the most recent eight SA sampling events that comply with GWPSs.

6.4.2 Evaluation Thresholds

A component of these evaluations is the identification of potentially less-than-optimal conditions, if present, or an indicator the remedy is not effectively reducing the plume extent or mass (adaptive trigger). A degree of variability is expected with the evaluations discussed due to the effects of unit closure (i.e., associated hydrogeologic and geochemical equilibration), natural variability in laboratory and sampling protocol, naturally variable weather conditions, and/or modifications to the performance monitoring network. Therefore, the above-listed evaluations of remedy effectiveness are used as only one indicator of many, which will be evaluated collectively using multiple lines of evidence for remedy effectiveness, performed on an annual basis. Variability between years is also expected, especially in the early years of corrective measure implementation due to the proximity of wells relative to units undergoing closure.

The following conditions may initiate additional corrective measures:

- One or more new exceedances of a GWPS in the monitoring network occur.
- The evaluations indicate impractically long cleanup timeframes, and progress is inconsistent.
- Plume boundaries expand laterally or vertically.
- Concentrations are increasing in plume interior with no statistically significant downward trend.
- Locations and monitoring wells with the highest COC concentrations remain high or increase despite remedy implementation and closure.

6.5 Annual Groundwater Monitoring and Corrective Action Report

The GMCAR will continue to be prepared during the implementation of the remedy to document activities under both the assessment monitoring program and the corrective action performance monitoring program. The performance evaluations, results, conclusions, and recommendations described in this section will be presented on an annual basis within the GMCAR. At a minimum, the report section will include data tables, trend plots, plume maps, and plume analytics.

6.6 Corrective Action Completion

As specified in 40 CFR § 257.98(I) of the CCR Rule, in order to complete corrective action monitoring, compliance with the GWPS at each of the groundwater monitoring wells must be demonstrated for a minimum period of three consecutive years. In addition, individual monitoring wells may be removed from the monitoring network once concentrations are demonstrated to be below the GWPS for three consecutive years. When the requirements for the completion of the corrective measure have been achieved, a notification stating that the remedy has been completed will be posted to the operating record and the publicly available website. This notification will be certified by a Professional Engineer.

7. Schedule

Table 15 presents a general schedule for the implementation of remedial activities at the Site. Remedy selection will be considered to be the date this Report is finalized.

The following sections present a discussion of the remedy implementation schedule considering the factors required by 40 CFR § 257.97(d)(1) through (5):

- Extent and nature of exceedances
- Reasonable probabilities of remedial technologies in achieving compliance with CCR Rule GWPSs
- Availability of treatment or disposal capacity for CCR managed during implementation of the remedy (not applicable for the Site)
- Potential risks to human health and the environment from exposure to contamination prior to completion of the remedy
- Resource value of the aquifer

7.1 Bottom Ash Pond

The BAP is in the process of being closed by removal pursuant to 40 CFR § 257.102(c). Closure was initiated on June 30, 2025, with the final receipt of waste to the unit. Historical BAP water levels have been slightly declining over time (**Figure 36**), but the rate of decline is anticipated to notably increase with the initiation of unit closure. Dewatering the unit and removal of all CCR is anticipated to be complete by June 30, 2030. APS initiated hydraulic containment operations as an interim corrective measure; however, as documented in this Report, GWPSs have yet to be attained. To further enhance monitoring plume stability, two additional large diameter monitoring wells are planned for installation at the BAP. These monitoring wells could be converted to extraction wells in the future, if deemed appropriate. APS intends to transition to post-closure care upon completion of closure in accordance with this RSR and 40 CFR § 257.102(c)(2). Groundwater corrective action will begin with the finalization of this Report and be complete when groundwater monitoring at impacted wells indicates compliance with GWPSs for a period of three consecutive years using the statistical methods that will be documented in the updated SDAWP.

As indicated in this Report, implementation of the remedy for impacted groundwater associated with the BAP could require greater than 100 years to achieve GWPSs based on the results of groundwater modeling. However, modeling of the effect of dewatering and closing the unit by removal was difficult to incorporate and could appreciably impact the primary cobalt mobilization and attenuation mechanisms in the impacted groundwater plume. ASM will be used to evaluate remedy performance and adapt the remedy during implementation to address this potential remedy duration. Additional corrective measures

including extraction well(s) and in situ treatment options will be explored to achieve completion of remedial activities within a reasonable period of time, targeting completion in 30 years.

There is limited potential for risks from the groundwater contamination to human health or the environment prior to completion of the remedy from impacted groundwater at the BAP. The groundwater is not used as a source of potable water supply because of elevated concentrations of TDS and the limited productivity of the aquifer. The impacted aquifer is localized to area downgradient of the BAP and extracted groundwater from hydraulic containment operations is evaporated in lined evaporation ponds. The inclusion of MNA as part of the remedy will enhance protection of the remedy by demonstrating that concentrations in groundwater downgradient of hydraulic containment operations are protective of human health and the environment before groundwater migrates to the immediate vicinity of the Little Colorado River (where groundwater is in communication with the river). ASM will be used to enhance protectiveness and address issues identified with implementation of the remedy. Indications that the remedy will not achieve the long-term performance goal of attainment of the GWPS by the target for remedy completion will also be addressed by ASM.

7.2 Fly Ash Pond

The FAP closure will primarily be achieved by leaving CCR in place, although some CCR and CCR-impacted soils will be closed by removal and consolidation. As of June 30, 2025, closure of this unit has been initiated, and CCR discharges have ceased. Historical free water levels at the FAP showed a steady increase over time until minimization of CCR discharges were initiated in 2016 in preparation of unit closure (**Figure 38**), where a notable decline in pond levels have consistently been observed. In 2021, improvements to seepage extraction were completed, which slightly contributed to the rate of declining pond water levels. Dewatering the unit, along with CCR stabilization and installation of the final cover, is anticipated to be completed by June 30, 2030, when APS will transition to post-closure care in accordance with this RSR and 40 CFR § 257.102(c)(2). APS initiated hydraulic containment operations as an interim corrective measure; however, as documented in this Report, GWPSs have yet to be attained. To further enhance hydraulic containment and improve groundwater control, six additional extraction wells are planned for installation at the FAP, with design anticipated to begin in third quarter of 2026, followed by construction in 2027 and commissioning and operation in early 2028. Groundwater corrective action will begin with the finalization of this Report and be complete when groundwater monitoring at impacted wells indicates compliance with GWPSs for a period of three consecutive years using the statistical methods that will be documented in the updated SDAWP.

As indicated in this Report, implementation of the remedy for impacted groundwater associated with the FAP is anticipated to require less than 25 years (fluoride, arsenic, molybdenum) and 25 to 50 years (lithium) to achieve GWPSs based on the results of groundwater modeling.

There is limited potential for risks from the groundwater contamination to human health or the environment prior to completion of the remedy from impacted groundwater at the FAP. The groundwater is not used as a source of potable water supply due to elevated levels of TDS and the limited productivity of the aquifer. The impacted aquifer is localized to area downgradient of the FAP and extracted

groundwater from hydraulic containment operations is evaporated in lined evaporation ponds. The inclusion of MNA as part of the remedy will enhance protection of the remedy by demonstrating that concentrations in groundwater downgradient of hydraulic containment operations are protective of human health and the environment before groundwater migrates to the immediate vicinity of the Little Colorado River (where groundwater is in communication with the river). ASM will be used to enhance protectiveness and address issues identified with implementation of the remedy. Indications that the remedy will not achieve the long-term performance goal of attainment of the GWPS by the target for remedy completion will also be addressed by ASM.

8. Record Keeping, Notification, and Internet Requirements

APS will continue to meet the requirements of recordkeeping, notification, and placement of the required information on the owner or operator's CCR website as specified in § 257.98 (f) with information located here:

https://www.aps.com/en/Utility/Regulatory-and-Legal/Environmental-Compliance#Cholla

Bibliography

AECOM. 2025a. Cholla Power Plant Closure Plan, §257.102(b), Bottom Ash Pond. Amendment 4 CH_ClosPlan_004_20250731. July 31.

AECOM. 2025b. Cholla Power Plant Closure Plan, §257.102(b), Fly Ash Pond. Amendment 3 CH_ClosPlan_002_20250731. July 31.

Interstate Technology & Regulatory Council (ITRC). 2010. A Decision Framework for Applying Monitored Natural Attenuation Processes to Metals and Radionuclides in Groundwater. APMR-1. ITRC, ITRC Attenuation Processes for Metals and Radionuclides Team, Washington, DC. December.

Montgomery & Associates (M&A). 2011. Arizona Public Service Cholla Power Plant Point of Compliance Evaluation. Prepared for APS. January 26.

M&A. 2017. Cholla Power Plant Coal Combustion Residuals Program – Design, Installation, and Evaluation of Completeness of Groundwater Monitoring Networks. Navajo County, Arizona. Document #CH_GW_SystemCert_020_20170919. September 19.

M&A. 2018. Annual Groundwater Monitoring and Corrective Action Report for Cholla Power Plant Coal Combustion Residuals Program, November 2015-December 2017. Document #CH_GW_ANCAR_020_20180131. January 31.

M&A. 2024. Predictive Transport Modeling Results for Coal Combustion Residuals Constituents of Concern. Navajo County, Arizona. February 14.

Sergent, Hauskins and Beckwith. 1973. Preliminary Soil and Geologic Study Report, Proposed Ash Disposal Areas, APS Cholla Plant, Near Joseph City, Arizona. December 14.

Shilling. 2005. A Description, History, and Finder's Guide for the Joseph City Irrigation System, Navajo County, Arizona. Report. Linda Shilling. Tempe, Arizona: Archaeological Consulting Services, Ltd. July 8.

U.S. Environmental Protection Agency (USEPA). 1999. Use of Monitored Natural Attenuation at Superfund, RCRA Corrective Action, and Underground Storage Tank Sites. OSWER Directive 9200.4-17P, Office of Solid Waste and Emergency Response, Washington, DC.

USEPA. 2007. Monitored Natural Attenuation of Inorganic Contaminants in Ground Water. EPA/600/R-07/139. U.S. Environmental Protection Agency Office of Research and Development National Risk Management Research Laboratory. October.

USEPA. 2015. Use of Monitored Natural Attenuation for Inorganic Contaminants in Groundwater at Superfund Sites. OSWER 9283.1-36. U.S. Environmental Protection Agency Office of Solid Waste and Emergency Response. August.

Wood. 2018. CCR Groundwater Assessment Monitoring Statistical Analysis and Results for the Fly Ash Pond. Arizona Public Service Company Cholla Power Plant, Navajo County, Arizona. Prepared on behalf of APS. October 15.

Wood. 2019a. Annual Groundwater Monitoring and Corrective Action Report for 2018. Coal Combustion Residual Rule Groundwater Monitoring System Compliance, Cholla Power Plant, Navajo County, Arizona. Prepared on behalf of APS. January 31.

Wood. 2019b. Assessment of Corrective Measures for the Fly Ash Pond and the Bottom Ash Pond. Coal Combustion Residual Rule and Aquifer Protection Permit Compliance, Arizona Public Service Company, Cholla Power Plant, Navajo County, Arizona. Prepared on behalf of APS. June 14.

Wood. 2019c. Alternative Source Demonstration for Lithium at the Bottom Ash Pond. Coal Combustion Residual Rule and Aquifer Protection Permit Compliance, Arizona Public Service Company, Cholla Power Plant, Navajo County, Arizona. Prepared on behalf of APS. June 6.

Wood. 2020a. Hydrogeologic Investigation of the Fly Ash Pond and Bottom Ash Pond. Coal Combustion Residuals Rule Groundwater Monitoring System Compliance. Arizona Public Service Company Cholla Power Plant, Navajo County, Arizona. Prepared on behalf of APS. January 31.

Wood. 2020b. Annual Groundwater Monitoring and Corrective Action Report for 2019. Coal Combustion Residual Rule Groundwater Monitoring System Compliance, Cholla Power Plant, Navajo County, Arizona. Prepared on behalf of APS. January 31.

Wood. 2020c. Alternative Source Demonstration for Arsenic and Cobalt at the FAP. Arizona Public Service Company Cholla Power Plant, Navajo County, Arizona. Prepared on behalf of APS. January 31.

Wood. 2020d. Risk Mitigation Plan for the Fly Ash Pond and the Bottom Ash Pond. Coal Combustion Residuals Rule Compliance. Arizona Public Service Cholla Power Plant – Navajo County, Arizona. October 30.

Wood. 2021a. Annual Groundwater Monitoring and Corrective Action Report for 2020. Coal Combustion Residual Rule Groundwater Monitoring System Compliance, Cholla Power Plant, Navajo County, Arizona. Prepared on behalf of APS. January 31.

Wood. 2021b. Evaluation of Groundwater Redox Conditions at the FAP. Cholla Power Plant, Navajo County, Arizona. Prepared on behalf of APS. January 22.

Wood. 2021c. Operations Inspection of the Fly Ash Pond Seepage Intercept Systems. Cholla Power Plant, Navajo County, Arizona. Prepared on behalf of APS. January 24.

Wood. 2021d. Well Completion Report Fly Ash Pond Extraction Wells. Cholla Power Plant, Navajo County, Arizona. Prepared on behalf of APS. December 21.

Wood. 2022a. Annual Groundwater Monitoring and Corrective Action Report for 2021. Coal Combustion Residual Rule Groundwater Monitoring System Compliance, Cholla Power Plant, Navajo County, Arizona. Prepared on behalf of APS. January 31.

Wood. 2022b. Groundwater Sampling and Analysis Program. Coal Combustion Residuals Rule Groundwater Monitoring System Compliance. Cholla Power Plant, Joseph City, Arizona. Prepared on behalf of APS. January 31.

Wood. 2022c. Operations Inspection of the Bottom Ash Pond Seepage Systems Arizona Public Service Company Cholla Power Plant: Joseph City, AZ. January 31.

Woodward-Clyde, Inc. 1991. Cholla Ash Ponds Groundwater Interpretative Report, Navajo County, Arizona. Prepared on behalf of Arizona Public Service Company. June 30.

WSP USA Inc. (WSP). 2023a. Annual Groundwater Monitoring and Corrective Action Report for 2022. Coal Combustion Residual Rule Groundwater Monitoring System Compliance, Cholla Power Plant, Navajo County, Arizona. Prepared on behalf of APS. January 31.

WSP. 2023b. Groundwater Monitoring System Certification Report. Coal Combustion Residuals Rule Groundwater Monitoring System Compliance, Cholla Power Plant, Navajo County, Arizona.

WSP. 2023c. Summary Report: Bottom Ash Pond Pre-Design Studies, Cholla Power Plant, Navajo County, Arizona. Prepared on behalf of APS. January 30.

WSP. 2023d. Fly Ash Pond Seepage Intercept System Installation Completion Report. Cholla Power Plant, Navajo County, Arizona. Prepared on behalf of APS. August 24.

WSP. 2023e. Statistical Data Analysis Work Plan. Coal Combustion Residuals Rule Groundwater Monitoring System Compliance, Cholla Power Plant, Navajo County, Arizona. Prepared on behalf of APS. January 30.

WSP. 2024. Annual Groundwater Monitoring and Corrective Action Report for 2023. Coal Combustion Residuals Rule Groundwater Monitoring System Compliance, Cholla Power Plant, Navajo County, Arizona. Prepared on behalf of APS. January 31.

WSP. 2025a. Annual Groundwater Monitoring and Corrective Action Report for 2024. Coal Combustion Residuals Rule Groundwater Monitoring System Compliance, Cholla Power Plant, Navajo County, Arizona. Prepared on behalf of APS. January 31.

WSP. 2025b. Bottom Ash Pond (BAP) Seepage Intercept System Upgrade Completion Report: Cholla Power Plant, Joseph City, Arizona. Prepared on behalf of APS. February 7.

WSP. 2025c. Alternative Source Demonstration for Combined Radium at the Bottom Ash Pond. Coal Combustion Residual Rule and Aquifer Protection Permit Compliance, Arizona Public Service Company, Cholla Power Plant, Navajo County, Arizona. Prepared on behalf of APS. July 16.

WSP. 2025d. Alternative Source Demonstration for Lithium at the Bottom Ash Pond. Coal Combustion Residual Rule and Aquifer Protection Permit Compliance, Arizona Public Service Company, Cholla Power Plant, Navajo County, Arizona. Prepared on behalf of APS. July 16.

WSP. 2026a. Annual Groundwater Monitoring and Corrective Action Report for 2025. Coal Combustion Residuals Rule Groundwater Monitoring System Compliance, Cholla Power Plant, Navajo County, Arizona. Prepared on behalf of APS. January 31.

WSP. 2026b. Addendum to Groundwater Monitoring System Certification Report, Bottom Ash Pond Groundwater Monitoring Network Modification. Cholla Power Plant, Navajo County, Arizona. Prepared on behalf of APS. March 25.

Tables

Table 1
Description of Coal Combustion Residual Units

CCR Unit/ CCR Status	Function	Operation	Size/Construction	History
Fly Ash Pond (FAP) Closure Initiated	Single CCR unit - surface impoundment to store slurried fly ash from the plant.	Historically received a slurry from the plant that contained primarily fly ash but also some bottom ash, boiler slag, flue gas emission control residuals, boiler cleaning waste, oil/water separator solids, and storm water. Historically receives solids from the SEDI.	- 430 acres in aerial extent. - Total storage capacity of about 18,000 acre-feet. - Normal operating elevation of 5,083 ft amsl.	- Constructed beginning in 1976 and placed into service in 1978. - Unlined; constructed on Moenkopi bedrock and a thin veneer of alluvial sediments. - The dam is constructed of earth fill with a central clay core that extends to bedrock where bedrock is shallow. In the central portion of the dam, where bedrock is deeper, a slurry cutoff wall extends one foot into bedrock or two feet into stiff clay. - Temporary evaporation pond constructed in August, 2024. FAP decant water began being pumped into the high-density polyethylene-lined evaporation pond in early 2025.
Bottom Ash Pond (BAP) Closure Initiated	Single CCR unit - surface impoundment to store slurried bottom ash from the plant.	Bottom ash is pumped to the BAP as a slurry. The bottom ash settles in the east and west upstream storage cells and the water is decanted to the reservoir and ultimately siphoned back to the plant for reuse. Slurry may also contain fly ash, boiler slag, flue gas emission control residuals, sedimentation pond effluent, cooling tower blowdown, oil/water separator effluent and solids, boiler cleaning waste, and storm water. Historically received solids from the SEDI.	- 105 acres in aerial extent. - Total storage capacity of 2,300 acre-feet. - Normal operating pool elevation of 5,114 feet amsl.	- Constructed beginning in 1976 and placed into service in 1978. - Unlined; constructed on Moenkopi bedrock and Tanner Wash alluvium. - Consists of a reservoir directly behind the dam and two storage cells upstream of the reservoir. - Closure activities began in the second quarter of 2025 with dewatering, CCR removal anticipated to be completed June 30, 2030
Bottom Ash Monofill (BAM) Active	Single CCR unit - landfill for bottom ash solids excavated from the BAP.	Bottom ash that has been drained of water is excavated from the BAP and permanently stored in the BAM.	- 41 acres in aerial extent.	- Placed into service in 1999.
Sedimentation Pond (SEDI) Closure Complete	Single CCR unit - collected water from drains around plant site, including storm water, process water, plant water, and slurry from plant leaks.	Collected discharge from on-site secondary wastewater treatment plant, effluent from the oil/water separator, vehicle wash water, plant wash water, and FGD wastes from scrubber or scrubber feed tank upsets. Water collected in the SEDI was pumped to Cholla's general water sump for recycling as process water.	- 1.3 acres in aerial extent. - Total storage capacity of 10.5 acre-feet. - Maximum pond depth of 10 feet. - the top of the pond side slope was at 5,019 feet amsl	- Placed into service in 1976. - Lined with a 2-foot-thick layer of compacted clay. - Constructed below grade. - Discharges to the SEDI ceased as of October 2020. - Demolition and excavation of SEDI complete as of October 2021. - Closure complete October 2022.

Source:

GEI Consultants, Inc. 2009. Final Coal Ash Impoundment Specific Site Assessment Report, Arizona Public Service, Cholla Power Plant. Submitted to Lockheed-Martin Corporation. December 2009.

Abbreviations:

amsl - above mean sea level
BAP - Bottom Ash Pond
BAM - Bottom Ash Monofill
CCR - Coal combustion residuals
FAP - Fly Ash Pond
FGD - flue gas desulfurization
SEDI - Sedimentation Pond

Table 2
BAP Constituent of Concern Concentrations - Semi Annual Event 2 2025

Well ID	Sample Date	Cobalt [1] (mg/L)
M-52A	10/29/2025	**0.0311**
M-53A	10/23/2025	0.00494
M-55A	10/22/2025	<0.002 U
MW-69A	10/23/2025	**0.0131**
MW-70M	10/23/2025	**0.0124**
MW-71A	10/29/2025	**0.00859 J**
MW-72M	10/29/2025	<0.0005
MW-73A	10/27/2025	0.00581 J
MW-74M	10/27/2025	**0.011**
MW-77A	10/29/2025	0.00482 J
MW-78A	10/23/2025	<0.002 U
MW-79A	10/29/2025	**0.00917 J**
W-301	10/22/2025	**0.0215**
W-302	10/23/2025	**0.0070**
W-303	10/23/2025	**0.0138**
W-304	10/22/2025	**0.00925**
W-305	10/29/2025	**0.00741 J**
W-306	10/23/2025	<0.002 U
W-307R	10/22/2025	**0.0353**
W-308	10/22/2025	<0.002 U
W-309	10/22/2025	<0.002 U
W-314	11/6/2025	**0.0301**

Notes and Abbreviations:

[1] BAP Cobalt GWPS = 0.006 mg/L

Groundwater detections above the cobalt GWPS are shown in RED

GWPS - Groundwater Protection Standard

BAP - Bottom Ash Pond

SA - Semi Annual

ID - Identification

mg/L - Milligram per Liter

J - The result is an estimated quantity. The associated numerical va concentration of the analyte in the sample.

U - Not detected at the Reporting Limit

< - Not detected at the Reporting Limit (or Method Detection Limit w

Table 3
FAP Constituent of Concern Concentrations - Semi Annual Event 2 2025

Well ID	Sample Date	Arsenic[1]	Fluoride [2]	Lithium [3]	Molybdenum [4]
M-43A	10/23/2025	<0.0020 U	<0.38	0.145	0.0050
M-44D	10/27/2025	<0.0020 U	0.629 J	0.044	<0.0050 U
M-45A	10/23/2025	<0.0020 U	0.576 J	0.218	<0.0050 U
M-46A	10/28/2025	**0.0103 J**	1.05 J	0.313	<0.050 U
M-50A	10/28/2025	0.00404 J	2.14	**0.448**	<0.050 U
M-51A	10/28/2025	**0.0248**	**5.25**	**0.457**	**0.135**
MW-65A	10/28/2025	0.0084 J	3.32	**0.991**	**0.27**
MW-66A	10/29/2025	0.0045 J	1.16 J	**0.523**	<0.050 U
MW-67A	10/23/2025	0.0058	0.591 J	0.154	<0.0050 U
W-123R	10/28/2025	0.00574 J	**5.76**	**0.743**	<0.05 U
W-125	10/29/2025	**0.0279**	0.492 J	0.03	<0.050 U
W-126R	10/23/2025	0.00070 J	**5.57**	**0.642**	**0.228**

Notes and Abbreviations:

[1] FAP Arsenic GWPS = 0.010 mg/L

[2] FAP Fluoride GWPS = 4.0 mg/L

[3] FAP Lithium GWPS = 0.418 mg/L

[4] FAP Molybdenum GWPS = 0.010 mg/L

Groundwater detections above the GWPS are shown in RED text

GWPS - Groundwater Protection Standard

FAP - Fly Ash Pond

ID - Identification

SA - Semi Annual

mg/L - Milligram per Liter

J - The result is an estimated quantity. The associated numerical value is the approximate concentration of the analyte in the sample.

U - Not detected at the Reporting Limit

< - Not detected at the Reporting Limit (or Method Detection Limit where applicable).

Table 4
CCR Groundwater Monitoring Network Summary

Well	ADWR Well Index Number	CCR Compliance Well	CCR Unit	Well Designation	Hydrogeologic Unit	Date Installed	Borehole Depth [ft bgs]	Top of Casing Elevation [ft AMSL]	Ground Surface Elevation [ft AMSL]	Top of Screen [ft bgs]	Bottom of Screen [ft bgs]	Screen Length [ft]	Top Screen Elevation [ft AMSL]	Bottom Screen Elevation [ft AMSL]	Bottom Borehole Elevation [ft AMSL]
M-54	55-918646	Yes	BAM	Background	Coconino Sandstone	10/2/2015	370	5070.71	5068.21	315	365	50	4,753.21	4,703.21	4,698.21
M-59	55-918647	Yes	BAM	Downgradient Boundary	Coconino Sandstone	10/21/2015	425	5136.00	5133.86	373	423	50	4,760.86	4,710.86	4,708.86
M-60	55-918649	Yes	BAM	Downgradient Boundary	Coconino Sandstone	11/1/2015	450	5151.18	5148.69	395	445	50	4,753.69	4,703.69	4,698.69
M-61	55-918648	Yes	BAM	Downgradient Boundary	Coconino Sandstone	11/13/2015	420	5127.58	5124.95	365	415	50	4,759.95	4,709.95	4,704.95
TDX-3[1]	55-926097	No	BAP	Extraction (Inactive)	Tanner Wash Alluvium	5/4/2021	55	5045.93	5044.41	10	50	40	5,034.41	4,994.41	4,989.41
TDX-4[1]	55-926099	No	BAP	Extraction (Inactive)	Tanner Wash Alluvium	5/12/2021	130	5049.62	5048.26	104	124	20	4,944.26	4,924.26	4,918.26
TDX-5[1]	55-926100	No	BAP	Extraction (Inactive)	Tanner Wash Alluvium	5/3/2021	84	5051.13	5049.60	36	76	40	5,013.60	4,973.60	4,965.60
TWX-3	55-539097	No	BAP	Extraction	Tanner Wash Alluvium	7/8/1993	40	5060.08	5058.23	20	29	9	5038.23	5029.23	5,018.23
TWX-4	55-539098	No	BAP	Extraction	Tanner Wash Alluvium	7/8/1993	40	5060.37	5058.48	20	38	8	5038.48	5020.48	5,018.48
TWX-5	55-539099	No	BAP	Extraction	Tanner Wash Alluvium	7/9/1993	40	5061.18	5059.39	20	38	18	5039.39	5021.39	5,019.39
TWX-6R	55-539100	No	BAP	Extraction	Tanner Wash Alluvium	7/7/1993	20	5060.38	5058.61	20	38	18	5038.61	5020.61	5,038.61
TWX-7R	55-539101	No	BAP	Extraction	Tanner Wash Alluvium	7/7/1993	12	5060.67	5058.84	20	38	18	5038.84	5020.84	5,046.84
TWX-8R	55-539102	No	BAP	Extraction	Tanner Wash Alluvium	7/7/1993	21	5060.78	5059.07	20	38	18	5039.07	5021.07	5,038.07
TWX-9	55-539864	No	BAP	Extraction	Tanner Wash Alluvium	7/24/1993	40	5060.48	5058.61	20	38	18	5038.61	5020.61	5,018.61
TWX-10	55-539863	No	BAP	Extraction	Tanner Wash Alluvium	7/25/1993	35	5058.59	5056.69	20	38	18	5036.69	5018.69	5,021.69
BSX-04	55-926240	No	BAP	Monitoring	Tanner Wash Alluvium	5/15/2021	51	5056.18	5054.63	22	42	20	5,032.63	5,012.63	5,003.63
BSX-05	55-926102	No	BAP	Monitoring	Tanner Wash Alluvium	5/15/2021	29	5056.37	5054.84	10	20	10	5,044.84	5,034.84	5,025.84
M-47A	55-913984	No	BAP	Monitoring	LCR Alluvium	1/20/2012	184	5020.34	5021.45	30.5	60	29.5	4,990.95	4,961.45	4,837.45
M-52A	55-918657	Yes	BAP	Downgradient Boundary	Tanner Wash Alluvium/Moenkopi - Moqui Member	9/22/2015	83	5049.36	5047.08	20	70	50	5,027.08	4,977.08	4,964.08
M-53A	55-918651	Yes	BAP	Downgradient Boundary	Tanner Wash Alluvium	9/22/2015	38	5044.68	5042.09	10	35	25	5,032.09	5,007.09	5,004.09
M-55A	55-918701	No	BAP	Monitoring	Tanner Wash Alluvium	10/30/2015	60	5062.82	5060.06	20	55	35	5,040.06	5,005.06	5,000.06
MW-69A	55-923618	No	BAP	Monitoring	Tanner Wash Alluvium	11/20/2019	27	5050.741	5049.25	16.6	26.6	10	5,032.65	5,022.65	5,022.25
MW-70M	55-923582	No	BAP	Monitoring	Moenkopi - Moqui Member	11/22/2019	77.5	5051.119	5049.80	45.6	75.6	30	5,004.20	4,974.20	4,972.30
MW-71A	55-926812	Yes	BAP	Downgradient Boundary	Tanner Wash Alluvium	9/28/2021	30	5050.680	5050.15	15.0	25.0	10	5,035.15	5,025.15	5,020.15
MW-72M	55-926814	Yes	BAP	Monitoring	Moenkopi - Moqui Member	9/19/2021	125	5049.670	5050.54	59.0	69.0	10	4,991.54	4,981.54	4,925.54
MW-73A	55-926813	Yes	BAP	Downgradient Boundary	Tanner Wash Alluvium	9/23/2021	26	5049.190	5049.66	11.0	21.0	10	5,038.66	5,028.66	5,023.66
MW-74M	55-926815	Yes	BAP	Downgradient Boundary	Moenkopi - Moqui Member	9/23/2021	125	5049.070	5049.74	45.0	65.0	20	5,004.74	4,984.74	4,924.74
MW-76A	55-926103	Yes	BAP	Monitoring	Tanner Wash Alluvium	5/1/2021	52	5033.890	5032.24	16.0	26.0	10	5,016.24	5,006.24	4,980.24
MW-77A	55-926104	Yes	BAP	Monitoring	Tanner Wash Alluvium/Moenkopi - Moqui Member	4/30/2021	65	5031.020	5029.78	44.0	64.0	20	4,985.78	4,965.78	4,964.78
MW-78A	55-926105	Yes	BAP	Monitoring	Tanner Wash Alluvium	5/4/2021	107	5036.950	5035.05	66.0	96.0	30	4,969.05	4,939.05	4,928.05
MW-79A	55-926106	Yes	BAP	Monitoring	Tanner Wash Alluvium	5/17/2021	177	5040.890	5038.24	135.0	165.0	30	4,903.24	4,873.24	4,861.24
W-227	55-506586	No	BAP	Monitoring	Moenkopi - Wupatki Member	11/2/1983	58	5122.820	5120.32	38	55	17	5,082.32	5,065.32	5,062.32
W-301	55-506372	No	BAP	Monitoring	Tanner Wash Alluvium	10/4/1983	62	5033.68	5031.18	40	60	20	4,991.18	4,971.18	4,969.18

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Well	ADWR Well Index Number	CCR Compliance Well	CCR Unit	Well Designation	Hydrogeologic Unit	Date Installed	Borehole Depth [ft bgs]	Top of Casing Elevation [ft AMSL]	Ground Surface Elevation [ft AMSL]	Top of Screen [ft bgs]	Bottom of Screen [ft bgs]	Screen Length [ft]	Top Screen Elevation [ft AMSL]	Bottom Screen Elevation [ft AMSL]	Bottom Borehole Elevation [ft AMSL]
W-302	55-506271	No	BAP	Monitoring	Tanner Wash Alluvium	11/1/1983	44	5036.42	5033.90	27	42	15	5,006.90	4,991.90	4,989.90
W-303	55-506365	No	BAP	Monitoring	Moenkopi - Moqui Member	10/26/1983	32	5039.70	5037.20	20	30	10	5,017.20	5,007.20	5,005.20
W-304	55-506370	No	BAP	Monitoring	Tanner Wash Alluvium	10/26/1983	56	5038.60	5036.10	35	54	19	5,001.10	4,982.10	4,980.10
W-305	55-906364	Yes	BAP	Downgradient Boundary	Tanner Wash Alluvium	10/7/1983	102	5046.80	5044.65	80	100	20	4,964.65	4,944.65	4,942.65
W-306	55-506365	Yes	BAP	Downgradient Boundary	Tanner Wash Alluvium	10/11/1983	52	5046.74	5044.78	30	50	20	5,014.78	4,994.78	4,992.78
W-307	55-506366	No	BAP	Monitoring	Tanner Wash Alluvium	10/21/1983	62	5045.22	5042.70	40	60	20	5,002.70	4,982.70	4,980.70
W-307R	55-926816	No	BAP	Monitoring	Tanner Wash Alluvium	10/4/2021	67	5048.33	5045.10	35	65	30	5,010.10	4,980.10	4,978.10
W-308	55-506368	No	BAP	Monitoring	Tanner Wash Alluvium	10/19/1983	72	5051.54	5049.00	50	70	20	4,999.00	4,979.00	4,977.00
W-309	55-506367	No	BAP	Monitoring	Tanner Wash Alluvium	10/14/1983	81	5062.01	5059.50	64	79	15	4,995.50	4,980.50	4,978.50
W-310	55-533816	No	BAP	Monitoring	Moenkopi - Wupatki Member	12/19/1992	240	5050.61	5048.60	218	238	20	4,830.60	4,810.60	4,808.60
W-311	55-533813	No	BAP	Monitoring	Coconino Sandstone	12/14/1991	281	5050.03	5047.7	259	279	20	4,788.70	4,768.70	4,766.70
W-312	55-533811	No	BAP	Monitoring	Moenkopi - Wupatki Member	1/22/1992	259	5052.01	5049.3	238	258	20	4,811.30	4,791.30	4,790.30
W-313	55-533812	No	BAP	Monitoring	Coconino Sandstone	1/27/1992	293	5051.32	5049.1	272	292	20	4,777.10	4,757.10	4,756.10
W-314	55-533814	Yes	BAP	Downgradient Boundary	Tanner Wash Alluvium	1/27/1992	63	5051.10	5051.32	41	61	20	5,010.32	4,990.32	4,988.32
W-317	55-913770	No	BAP	Monitoring	LCR Alluvium	11/10/2011	122.5	5022.27	5023.09	28.8	58.8	30	4,994.29	4,964.29	4,900.59
DM-04R	55-910008	No	FAP	Monitoring	LCR Alluvium	11/22/2008	90	5018.43	5015.77	35	65	30	4,980.77	4,950.77	4,925.77
EW-01	55-925217	No	FAP	Extraction	LCR Alluvium	12/10/2020	55.0	5037.36	5035.09	20.0	50.0	30	5,015.09	4,985.09	4,980.09
EW-02	55-925218	No	FAP	Extraction	LCR Alluvium	12/11/2020	52.0	5036.64	5034.01	17.0	47.0	30	5,017.01	4,987.01	4,982.01
EW-03	55-925215	No	FAP	Extraction	LCR Alluvium	12/12/2020	53.0	5037.71	5035.2	18.0	48.0	30	5,017.20	4,987.20	4,982.20
EW-04	55-925216	No	FAP	Extraction	LCR Alluvium	12/10/2020	24.0	5039.93	5037.18	9.0	19.0	10	5,028.18	5,018.18	5,013.18
GSX-1R	55-926115	No	FAP	Extraction	LCR Alluvium	5/16/2021	54	5037.97	5036.1	29	49	20	5,007.10	4,987.10	4,982.10
HUNT B4	55-553267	No	FAP	Extraction	LCR Alluvium	12/21/1995	49	N/A	N/A	19	49	30	N/A	N/A	N/A
M-43A	55-910013	No	FAP	Monitoring	LCR Alluvium	11/21/2008	80	5022.56	5019.87	40	70	30	4,979.87	4,949.87	4,939.87
M-44D	55-909987	No	FAP	Monitoring	Coconino Sandstone	11/13/2008	385	5143.52	5140.94	320	380	60	4,820.94	4,760.94	4,755.94
M-44S	55-909988	No	FAP	Monitoring	Moenkopi - Wupatki Member	11/13/2008	290	5145.63	5143.01	250	280	30	4,893.01	4,863.01	4,853.01
M-45A	55-913769	No	FAP	Monitoring	LCR Alluvium	11/12/2011	68	5025.57	5023.57	31	60	29.7	4,993.07	4,963.37	4,955.57
M-46A	55-913771	No	FAP	Monitoring	LCR Alluvium	11/14/2011	40	5025.36	5023.36	22	34	12	5,001.36	4,989.36	4,983.36
M-49A	55-918639	No	FAP	Monitoring	LCR Alluvium	9/17/2015	35	5024.70	5022.70	10	20	10	5,012.70	5,002.70	4,987.70
M-50A	55-918641	Yes	FAP	Downgradient Boundary	LCR Alluvium	9/18/2015	32	5038.18	5035.65	9	29	20	5,026.65	5,006.65	5,003.65
M-51A	55-918640	Yes	FAP	Downgradient Boundary	LCR Alluvium	9/19/2015	14	5041.77	5039.10	7	12	5	5,032.10	5,027.10	5,025.10
M-63A	55-918638	No	FAP	Monitoring	LCR Alluvium	9/25/2015	57	5021.82	5018.9	25	55	30	4,993.90	4,963.90	4,961.90
MW-65A	55-922299	Yes	FAP	Monitoring	LCR Alluvium	11/15/2018	25	5027.86	5026.21	9	19	10	5,017.31	5,007.31	5,001.21
MW-66A	55-922300	Yes	FAP	Monitoring	LCR Alluvium	11/14/2018	60	5033.35	5032.46	24	49	25.1	5,008.86	4,983.76	4,972.46
MW-67A	55-922301	Yes	FAP	Monitoring	LCR Alluvium	11/16/2018	50	5025.38	5024.05	15	45	30.1	5,009.45	4,979.35	4,974.05
MW-68M	55-923346	No	FAP	Monitoring	Moenkopi - Moqui Member	9/16/2019	50	5026.95	5026.45	30	50	20.1	4,996.71	4,976.61	4,976.10
W-123	55-506587	Yes	FAP	Downgradient Boundary	Moenkopi - Moqui Member	11/4/1983	40	5039.838	5038.136	14	29	15	5,024.14	5,009.14	4,998.14
W-123R	55-926116	Yes	FAP	Downgradient Boundary	LCR Alluvium	5/12/2021	67	5041.06	5038.83	35	65	30	5,003.83	4,973.83	4,971.83

Table 4
CCR Groundwater Monitoring Network Summary

Well	ADWR Well Index Number	CCR Compliance Well	CCR Unit	Well Designation	Hydrogeologic Unit	Date Installed	Borehole Depth [ft bgs]	Top of Casing Elevation [ft AMSL]	Ground Surface Elevation [ft AMSL]	Top of Screen [ft bgs]	Bottom of Screen [ft bgs]	Screen Length [ft]	Top Screen Elevation [ft AMSL]	Bottom Screen Elevation [ft AMSL]	Bottom Borehole Elevation [ft AMSL]
W-124	55-533820	No	FAP	Monitoring	Moenkopi - Wupatki Member	2/14/1992	96	5037.53	5036.00	76	96	20	4,960.00	4,940.00	4,940.00
W-125	55-533817	No	FAP	Monitoring	Coconino Sandstone	2/13/1992	141	5038.37	5036.00	120	140	20	4,916.00	4,896.00	4,895.00
W-126	55-553268	No	FAP	Monitoring	Moenkopi - Moqui Member	12/1/1995	50	5034.75	5032.75	15	45	30	5,017.75	4,987.75	4,982.75
W-126R	55-926120	No	FAP	Monitoring	LCR Alluvium	05/03/2021	27	5031.71	5030.19	9	19	10	5,021.19	5,011.19	5,003.19
W-127	55-560489	No	FAP	Monitoring	LCR Alluvium	2/11/1997	33.3	5030.04	5025.18	15	30	15	5,010.18	4,995.18	4,991.88
MW-80A	55-931375	No	FAP	Monitoring	LCR Alluvium	8/5/2024	45	5025.85	5023.33	30	40	10	4993.33	4983.33	4978.33
MW-81A	55-931377	No	FAP	Monitoring	LCR Alluvium	8/10/2024	55	5026.76	5024.52	35	45	10	4989.52	4,979.52	4969.52
MW-82A	55-931378	No	FAP	Monitoring	LCR Alluvium	8/9/2024	38	5027.79	5025.95	20	30	10	5,005.95	4,995.95	4987.95
MW-83A	55-931380	No	FAP	Monitoring	LCR Alluvium	8/8/2024	55	5030.42	5028.19	35	45	10	4,993.19	4,983.19	4973.19
MW-84A	55-931376	No	FAP	Monitoring	LCR Alluvium	8/8/2024	50	5027.38	5025.13	35	45	10	4,990.13	4,980.13	4975.13
MW-85C	55-931406	No	FAP	Monitoring	Coconino Sandstone	8/13/2024	130	5027.70	5027.70	105	125	20	4,922.70	4,902.70	4897.70
M-64A	55-920353	Yes	FAP/BAP	Background	LCR Alluvium	2/9/2017	69	4991.90	4988.90	30	60	30	4,958.90	4,928.90	4,919.90
CR-1[3]	55-926108	No	--	Monitoring	LCR Alluvium	9/24/1993	45	5010.20	5006.15	25	45	20	4,981.15	4,961.15	4,961.15
CR-1R[3]	55-926108	No	--	Monitoring	LCR Alluvium	4/28/2021	67	5010.02	5007.9	28	48	20	4,979.90	4,959.90	4,940.90
M-48A[3]	55-913983	No	--	Monitoring	LCR Alluvium	1/22/2012	145	5020.37	5018.37[2]	30.5	59.5	29	4,987.87	4,958.87	4,873.37
M-56A[3]	55-918661	No	--	Monitoring	LCR Alluvium	10/7/2015	100	5023.17	5020.63	40	85	45	4,980.63	4,935.63	4,920.63
M-57A[3]	55-918660	No	--	Monitoring	LCR Alluvium	10/8/2015	100	5023.82	5021.16	40	85	45	4981.16	4936.16	4921.16
M-58A[3]	55-918659	No	--	Monitoring	LCR Alluvium	10/13/2015	100	5023.84	5021.24	39	84	45	4982.24	4937.24	4921.24
M-62A[3]	55-918658	No	--	Monitoring	LCR Alluvium	11/17/2015	97	5020.87	5021.01	39	84	45	4982.01	4937.01	4924.01

Source:

AMEC Earth & Infrastructure, Inc., 2012. Well Completion Report, Installation of Aquifer Protection Permit Monitor Wells, Arizona Public Service Company, Cholla Power Plant, Navajo County, Arizona. AMEC Job No. 17-2011-4054. May 7, 2012.

Montgomery & Associates, 2017. Cholla Power Plant Coal Combustion Residuals Program–Design, Installation, and Evaluation of Completeness of Groundwater Monitoring Networks. Navajo County, Arizona. September 19, 2017.

Wood Environment & Infrastructure Solutions, Inc. Surveying, 2018 and 2019.

Martin Land Surveys, Inc., 2020, 2021, 2024.

Notes and Abbreviations:

ADWR - Arizona Department of Water Resources

AMSL - Above mean sea level (Vertical datum is NAVD 88)

BAM - Bottom Ash Monofill

BAP - Bottom Ash Pond

bgs - below ground surface

CCR - Coal combustion residuals

FAP - Fly Ash Pond

ft - feet

LCR - Little Colorado River

N/A - not applicable

[1] In previous documents TDX-3 is also known as BSX-01, TDX-4 is also known as BSX-02, and TDX-5 is also known as BSX-03

[2] Approximate - elevation based on measured stickups

[3] Well was formerly monitored for the SEDI CCR unit which was closed by removal in October 2022

[4] Hunt B is also know as HSX-1

Wells highlighted gray were abandoned

Well Designation Descriptions:

Background - Monitoring location used to determine background groundwater quality that has not been affected by the CCR unit under investigation (40 CFR §257.91)

Downgradient Boundary - Monitoring location used to assess the groundwater conditions at the boundary of each CCR unit

Extraction - Well location that currently supports the hydraulic containment system with the extraction of groundwater located downgradient of a CCR unit

Extraction (Inactive) - Well location installed to assist with the extraction of groundwater that does not actively support the current hydraulic containment system

Monitoring - Monitoring location intended to further support interpretations of both immediate CCR Unit-area conditions and Site-wide conditions apart of remedy performance

Table 5
BAP Seepage Intercept System Flow Meter Data

Date	Toe Drain			Petroglyph			TWX/226 Seeps			Tanner Wash			BAP Combined	
	Totalizer Reading (gal)	Total Volume (gal)	Flow (gpd)	Totalizer Reading (gal)	Total Volume (gal)	Flow (gpd)	Totalizer Reading (gal)	Total Volume (gal)	Flow (gpd)	Totalizer Reading (gal)	Total Volume (gal)	Flow (gpd)	Total Volume (gal)	Flow (gpd)
12/20/2022	20,194,600	2,488,000	7,109	633,161	1,006,330	2,875	14,635,000	2,706,340	7,732	21,640,000	19,860,000	56,743	26,060,670	74,459
12/5/2023	22,682,600			1,639,491			17,341,340			41,500,000				
2024*	NM	1,820,083	11742	NM	382,385	2467	NM	1,100,965	7103	NM	2,168,987	13993	5,472,420	35,305
2025	NM	4,955,318	13576	NM	999,986	2740	NM	1,098,339	3009	NM	5,987,728	16405	13,041,371	35,730

Notes and Abbreviations:

* - July 30th - December 31st (155 days)
BAP - Bottom Ash Pond
gal - gallons
gpd - gallons per day
NM - No Measurement. Since July of 2024 totalizer readings are obtained from remote telemetry units installed on each extraction system.

Table 6
FAP Seepage Intercept System Flow Meter Data

Date	EW-01			EW-02			EW-03			EW-04			GSX-1R		
	Totalizer Reading (gal)	Total Volume (gal)	Flow (gpd)	Totalizer Reading (gal)	Total Volume (gal)	Flow (gpd)	Totalizer Reading (gal)	Total Volume (gal)	Flow (gpd)	Totalizer Reading (gal)	Total Volume (gal)	Flow (gpd)	Totalizer Reading (gal)	Total Volume (gal)	Flow (gpd)
12/7/2022	18,531	29,038	80	44,831	102,937	284	59,650	1,620,685	4,477	40,267	721,046	1,992	15,939	382,158	1,056
12/4/2023	47,569			147,768			1,680,335			761,313			398,097		
12/9/2024	113245	65,676	177	298,352	150,584	406	2,388,284	707,949	1908	1,655,811	894,498	2411	938,023	539,926	1455
12/8/2025	235,614	122,369	336	664,706	366,354	1006	2,415,846	27,562	76	2,346,769	690,958	1898	1,484,494	546,471	1501

Notes and Abbreviations:

FAP - Fly Ash Pond
gal - gallons
gpd - gallons per day
NM - No Measurement (No Power)

Table 6
FAP Seepage Intercept System Flow Meter Data

Date	GSX-3 (Geronimo C)			GSX-4 (Geronimo D)			Hunt A			Hunt B			FAP Combined	
	Totalizer Reading (gal)	Total Volume (gal)	Flow (gpd)	Totalizer Reading (gal)	Total Volume (gal)	Flow (gpd)	Totalizer Reading (gal)	Total Volume (gal)	Flow (gpd)	Totalizer Reading (gal)	Total Volume (gal)	Flow (gpd)	Total Volume (gal)	Flow (gpd)
12/7/2022	22,381	294,623	814	152,383	1,208,729	3,339	10,909	103,587	286	83,941	2,438,063	6,735	6,900,866	19,063
12/4/2023	317,004			1,361,112			114,496			2,522,004				
12/9/2024	455,872	138,868	374	NM	NM	NM	114,587	91	0.245	6,429,809	3,907,805	10,533	6,405,397	17,265
12/8/2025	495,027	39,155	108	1,502,779	141,667	193	114,872	285	0.783	9,470,987	3,041,178	8,355	4,975,999	13,474

Notes and A

FAP - Fly Ash Pond
gal - gallons
gpd - gallons per day
NM - No Measurement (No Power)

Table 7
MNA Evaluation Summary for the BAP

Elements of MNA Evaluation	Characterization	Applicable Section or Reference
Tier 1- Demonstrate Active Contaminant Removal from Groundwater		
Hydrogeologic Elements	Potential migration pathways identified	3.5.1
	Nature and extent of contaminant plume	3.6.1
	Basic groundwater flow direction and aquifer hydrostratigraphy	3.3.1
General Site Chemistry	General chemistry (groundwater, surface water, aquifer solids) for preliminary evaluation of contaminant degradation	3.3 3.3.1 WSP 2026a WSP 2023c
	Trend evaluation of groundwater data	4.3.2.1
	Distribution of contaminants between aqueous and solid phases	WSP 2023c
Tier 2- Determine Mechanisms and Rate of Attenuation		
Define Contaminant/Aquifer Solid Interactions	Identify aquifer mineralogy, attenuation mechanisms, and microbiological processes (if applicable)	WSP 2023c 4.3.2.1 5.1.2
Chemistry and Spatial Distribution of Contaminants	Groundwater characteristics for contaminant plume, including field parameters	WSP 2026a 3.2 3.5.1 4.2.1 WSP 2023c
	Appendix III parameters, Appendix IV parameters, major cations and anions, and speciation data (if applicable)	WSP 2026a 3.6.1 4.2.1 WSP 2023c
Detailed Hydrogeology	Groundwater flow regime, including direction, velocity, potentiometric surface, gradients, etc.	WSP 2026a 3.3.1 3.2
Tier 3- Determine System Capacity and Stability of Attenuation		
Measurement of Attenuation Capacity	Determination of contaminant and dissolved reactant fluxes (concentration data and water flux)	WSP 2026a 4.2.1 WSP 2023c
	Determination of mass of available solid phase reactant(s)	4.3.2.1 WSP 2023c
Stability of Attenuated Contaminated Mass	Laboratory testing of immobilized contaminant stability	4.2.1 4.3.2.1 WSP 2023c
	Model analyses to characterize aquifer capacity and evaluation of immobilized contaminant stability	4.2.1 4.3.2.1 WSP 2023c
Tier 4- Design of Performance Monitoring Program and Identify Alternative Remedy		
Performance Monitoring	Selection of monitoring locations and sampling frequency based on site conditions	6.2.2
	Selection of key monitoring parameters used to assess effectiveness of the remedy	6.2.2
	Selection of monitoring criteria that would trigger re-evaluation of adequacy of the monitoring program and the remedy selected	4.3.3 6.4.1

Table 8
BAP Groundwater Concentration M-K Trend Summary

Well ID	Cobalt		
	M-K Statistic (S)	Slope	Concentration Trend [1]
M-52A	-90	-0.0009709	Stable
M-53A	-402	-0.001444	Decreasing
M-55A	68	0.0001237	Stable [2]
MW-69A	-45	-0.002375	Decreasing
MW-70M	-56	-0.002242	Decreasing
MW-71A	-33	-0.002239	Decreasing
MW-73A	-10	-0.00127	Probable Decreasing
MW-74M	-42	-0.001779	Decreasing
MW-77A	51	0.000344	Increasing
MW-78A	-5	-0.00002455	Stable
W-301	53	0.0007266	Increasing
W-302	41	0.0001912	Stable
W-303	-57	-0.001718	Decreasing
W-305	7	0	Stable
W-306	-107	-0.0001778	Stable
W-314	287	-0.0001778	Increasing

Notes

[1] Trends are present at a 95 percent (%) confidence factor. If a trend is probable than the trend is present at a less than 95% confidence factor.

[2] Non-detects > 50%

Decreasing trend

Increasing trend

ID - identification

M-K - Mann-Kendall

BAP - Bottom Ash Pond

Table 9
FAP Groundwater Concentration M-K Trend Summary

Well ID	Arsenic			Fluoride			Lithium			Molybdenum		
	M-K Statistic (S)	Slope	Concentration Trend [1]	M-K Statistic (S)	Slope	Concentration Trend [1]	M-K Statistic (S)	Slope	Concentration Trend [1]	M-K Statistic (S)	Slope	Concentration Trend [1]
M-45A	46	0.0002308	Increasing [2]	-30	-0.01633	Stable	16	0.009986	Stable	6	0.0000374	Stable
M-46A	51	0.0009437	Increasing	16	0.04018	Stable	23	0.005244	Stable	18	0.0004504	Stable
M-50A	183	0.0001623	Increasing	17	0	Stable	-165	-0.007289	Decreasing	180	0.0003499	Increasing
M-51A	65	0.0004028	Stable	22	0.009529	Stable	-303	-0.01923	Decreasing	319	0.01469	Increasing
M-53A	101	0.00007527	Stable	129	0.05041	Stable	80	0.000000001	Stable	-196	-0.0018	Decreasing
M-63A	108	0.0001949	Increasing	-74	0	Stable [2]	-103	-0.01233	Decreasing [2]	49	0.00008286	Stable
M-65A	24	0.0002885	Stable	0	0	Stable	-12	-0.005452	Stable	57	0.01038	Increasing
M-66A	18	0.00009001	Stable	3	0	Stable	-18	-0.004583	Stable	9	0.00005067	Stable
MW-83A	8	0.001074	Stable	11	0	Stable	18	0.06586	Increasing	-3	0	Stable
MW-84A	4	0.0007306	Stable	-1	-0.06913	Stable	16	0.11	Stable	-5	-0.009052	Stable
MW-85C	22	0.06623	Increasing	12	0.6375	Stable	-6	-0.004934	Stable	-3	0	Stable
W-123R	13	0.000178	Stable	13	0.1742	Stable	27	0.03209	Stable	-46	-0.05279	Decreasing
W-125	-30	-0.0001231	Stable [2]	-5	0	Stable [2]	-127	-0.01854	Decreasing	29	0.00003386	Stable [2]
W-126R	7	0.0001873	Stable	-4	-0.008042	Stable	1	0	Stable	-27	-0.01841	Stable

Notes

[1] Trends are present at a 95 percent (%) confidence factor. If a trend is probable than the trend is present at a less than 95% confidence factor.

[2] Non-detects > 50%

Decreasing trend

Increasing trend

Fluoride concentrations measured in May 2023 were not included for this analysis due to high method detection limits reported for May 2023 analytical data

ID - identification

M-K - Mann-Kendall

FAP - Fly Ash Pond

Table 10
Corrective Action System Performance Standards, Evaluation, and Adaptation

Performance Standard		CAS Performance Metrics	Evidence that Performance Standard is Met	Adaptive Trigger	Potential CAS Adaptations
Interim Hydraulic Containment Performance Standards	Achieve and Maintain Hydraulic Containment to limit COC Migration	Groundwater level trend analysis	Groundwater levels effectively lower the groundwater table to levels that promote and maintain hydraulic containment.	Groundwater levels in one or more performance wells indicate a loss of containment.	Evaluate whether operations have been consistent, pumps are operational, and if well screens are clear of obstructions. Address any identified issues. If after troubleshooting extraction pump(s)/well screens the system appears to be operating as designed, increase the capacity of the pump(s) or install additional extraction well(s) to address area where potential loss of containment may be indicated.
		Monthly pump hour, flow rate, and flow volume	Monitoring demonstrates consistent and effective operation of extraction pumps.	Inconsistent operations are indicated by CAS instrumentation.	If troubleshooting indicates malfunctioning CAS instrumentation, replace malfunctioning CAS instrumentation.
		Semi annual water level and COC concentrations down/side gradient of containment operations.	COC concentration trends are stable or declining(1).	COC concentration trends are increasing(1) and indicate a potential loss of containment.	Increase water quality and water level monitoring of affected wells to quarterly for a minimum of four quarters; conduct troubleshooting of extraction operations; if after troubleshooting extraction operations, the system appears to be operating as designed, increase the capacity of the pump(s) and/or install additional extraction well(s) to address area where potential loss of containment may be indicated.
	Declining COC Concentrations in Impacted Groundwater (trend analysis)	Semi annual COC concentrations downgradient/side gradient of the containment system.	COC concentrations are stable or declining(1).	COC concentrations in one or more extraction wells/sumps or performance wells are increasing(1) and indicate either a potential new source of contamination is present or a potential loss of containment.	Assess whether an alternative source of contamination is contributing to the increasing COC concentrations and/or if hydraulic containment operations require expansion to achieve long-term performance standards, initiate evaluations and implementation of in-situ treatment of impacted sites(2).
Interim MNA Performance Standards	Compliance with GWPSs Upgradient of Downgradient Receptors	Semi annual COC concentrations in performance monitoring wells upgradient of receptors.	95% UCLs of COC concentrations are less than GWPSs.	95% UCLs of COC concentrations are greater than GWPSs and indicate a potential future risk to downgradient receptors.	Increase water quality and water level monitoring of affected wells to quarterly until COC concentrations decline to less than GWPSs; evaluate whether an expanded monitoring network is required to demonstrate performance standard (i.e., additional downgradient well[s]); assess whether hydraulic containment operations require expansion to achieve long-term performance standard.
	Plume Stability Upgradient of Downgradient Receptors	Semi annual COC concentrations and field parameters in performance monitoring wells upgradient of receptors.	COC concentrations, and plume mass and extent are stable or declining(1). Field parameters, such as pH, ORP and DO are consistent with baseline conditions and favorable for MNA	COC concentrations are increasing, or pH < 6.0 or > 7.5, or a change greater than ±1 pH unit from baseline, or ORP < +50 mV or a statistically significant downward trend toward reducing conditions, or DO < 0.5 mg/L for multiple consecutive events Plume mass or extent are increasing(1) and indicate a potential future risk to downgradient receptors.	Increase water quality and water level monitoring of affected wells to quarterly until concentrations decline to less than GWPSs; evaluate whether an expanded monitoring network is required to demonstrate performance standard (i.e., additional downgradient well[s]); assess whether hydraulic containment operations require expansion to ensure protectiveness of remedy, initiate analyzing and monitoring additional analytes to evaluate MNA effectiveness, initiate evaluation and implementation of in-situ treatment of sites with higher COC concentrations(2).
Long-Term Performance Standard	Plume Cleanup	Semi annual COC concentrations in impacted monitoring wells.	COC concentrations are less than respective GWPSs for three consecutive years.	---	---

Notes:

(1) - Trend indicated with a 95 percent (%) confidence level.

(2) - in-situ treatment evaluation and implementation only at BAP

CAS - Corrective Action System
COC - Constituent of Concern
GWPSs - Groundwater Protection Standards
UCL - Upper Confidence Limit

Table 11
BAP Remedy Performance Monitoring Location Rationale

Well IDs		Monitoring Location Classification	Purpose
M-52A		Downgradient Boundary Well	These locations are monitoring areas with high cobalt detections within the existing plume.
MW-69A, W-307R		Monitoring Well	
MW-70M		Monitoring Well	This location is monitoring an area with elevated cobalt detections within the existing plume.
M-53A		Downgradient Boundary Well	These locations monitor the plume boundary and overall plume stability (mass reduction and extent)
MW-77A, MW-78A, MW-79A, BSX-6, BSX-7		Monitoring Well	
W-303, W-308		Monitoring Well	
MW-71A, MW-73A,MW-74M, W-305, W-306, W-314		Downgradient Boundary Well	These locations monitor overall plume stability (mass reduction and extent)
W-301, W-302		Monitoring Well	These locations monitor the current downgradient plume extent
Extraction System	Wells:TDX-3, TDX-4, TDX-5, TWX-3 through 10	Extraction Well	These locations evaluate hydraulic containment performance
	Sumps: Toe Drain, Petroglyph, Tanner Wash	Extraction Sump	

Abbreviations:
BAP - Bottom Ash Pond
ID - identification

Table 12
FAP Remedy Performance Monitoring Location Rationale

Well IDs		Monitoring Location Classification	Purpose
M-50A		Downgradient Boundary Well	This location monitors the plume boundary and extent and distinguishes extent of plume around the FAP cutoff wall.
M-51A		Downgradient Boundary Well	This location monitors the plume boundary and extent, specifically arsenic and fluoride.
W-123R		Downgradient Boundary Well	This location monitors the plume boundary and extent, specifically fluoride, lithium, and molybdenum.
MW-65A		Monitoring Well	This location monitors the plume boundary and extent, specifically arsenic, fluoride, lithium, and molybdenum. This location assists in MNA plume stability analyses.
MW-66A		Monitoring Well	This location monitors the plume boundary and extent, specifically lithium. This location assists in MNA plume stability analyses.
MW-67A		Monitoring Well	This location monitors the naturally occurring arsenic concentrations.
MW-83A, MW-84A		Monitoring Well	These locations monitor the plume boundary and extent, in support of possible downgradient migration in addition to overall plume stability.
MW-85C		Monitoring Well	This is a Coconino aquifer monitoring location. This location monitors location upgradient of downgradient receptors, specifically arsenic.
W-125		Monitoring Well	This is a Coconino aquifer monitoring location. This location monitors the plume boundary and extent, specifically arsenic.
W-126R		Monitoring Well	This location monitors the plume boundary and extent, specifically fluoride, lithium, and molybdenum. This location assists in MNA plume stability analyses.
Extraction Systems	Wells: EW-01 through EW-04, GSX-1R, Hunt B, Future HSX 1 through 6	Extraction Well	These locations evaluate hydraulic containment performance
	Sumps: GSX-3 (Geronimo C), HSX-A (Hunt Sump), GSX-4 (Geronimo D)	Extraction Sump	

Abbreviations:

FAP - Fly Ash Pond
ID - identification
MNA - monitored natural attenuation

Table 13
Corrective Action Performance Monitoring Network Summary - BAP

Performance Monitoring Location	Monitoring Parameter				Interim Hydraulic Containment Performance Standards		Interim MNA Performance Standards		Long-Term Performance Standard
	Water Quality (WQ)		Water Level (WL)	Extraction Flow, Volume Pump Run Time (EX)	Hydraulic Containment	Trend Analysis	Compliance with GWPSs Upgradient of Potential Receptors	Plume Stability	Compliance with GWPSs
M-52A*	X	---	X	---	WL	WQ	---	---	WQ
M-53A*	X	---	X	---	WL	WQ	---	---	WQ
MW-71A*	X	---	X	---	WL	WQ	---	WQ	WQ
MW-73A*	X	---	X	---	WL	WQ	---	WQ	WQ
MW-74M*	X	---	X	---	WL	WQ	---	---	WQ
W-305*	X	---	X	---	WL	WQ	---	---	WQ
W-306*	X	---	X	---	WL	WQ	---	---	WQ
M-55A	X	---	X	---	WL	---	---	---	WQ
MW-69A	X	---	X	---	WL	WQ	---	---	WQ
MW-70M	X	---	X	---	WL	WQ	---	---	WQ
MW-76A	---	---	X	---	---	---	---	---	---
MW-77A	X	---	X	---	WL	WQ	WQ	WQ	WQ
MW-78A	X	---	X	---	WL	WQ	WQ	---	WQ
MW-79A	X	---	X	---	WL	WQ	WQ	---	WQ
W-301	X	---	X	---	WL	WQ	WQ	---	WQ
W-302	X	---	X	---	WL	WQ	WQ	---	WQ
W-303	X	---	X	---	WL	WQ	---	WQ	WQ
W-304	---	---	X	---	---	---	---	---	---
W-307R	X	---	X	---	WL	WQ	---	WQ	WQ
W-308	X	---	X	---	WL	WQ	---	---	WQ
W-309	---	---	X	---	---	---	---	---	---
W-314	X	---	X	---	WL	WQ	---	WQ	WQ
BSX-6	X	---	X	---	WL	WQ	WQ	WQ	WQ
BSX-7	X	---	X	---	WL	WQ	WQ	WQ	WQ
Extraction Systems	---	X	X	X	WL, EX	WQ	---	---	---
Monitoring Frequency	Semi Annual	Annual	Semi Annual	Monthly	---	---	---	---	---
Evaluation Frequency	---	---	---	---	Annual	Annual	Annual	Annual	Annual

Notes:

* Monitoring location is also a Coal Combustion Residual (CCR) Downgradient Boundary Compliance Well evaluated for Appendix III and IV constituents on a semi annual basis for CCR Compliance Monitoring.
**All data is evaluated on an annual frequency
BAP - Bottom Ash Pond
COC - Constituent of Concern. The current identified COC is cobalt at the BAP.
GWPSs - Groundwater Protection Standards
MNA - Monitored Natural Attenuation
WL - Water level monitoring
WQ - Water quality analysis for field parameters and cobalt
EX - Extraction well monitoring for pump hours, flowrate, and volume

Table 14
Corrective Action Performance Monitoring Network Summary - FAP

	Monitoring Parameter				Interim Hydraulic Containment Performance Standards		Interim MNA Performance Standards		Long-Term Performance Standard
Performance Monitoring Location	Water Quality (WQ)		Water Level (WL)	Extraction Flow, Volume Pump Run Time (EX)	Hydraulic Containment	Trend Analysis	Compliance with GWPSs Upgradient of Potential Receptors	Plume Stability	Compliance with GWPSs
M-50A*	X	---	X	---	WL, WQ	---	---	---	WQ
M-51A*	X	---	X	---	WL, WQ	---	---	---	WQ
W-123R*	X	---	X	---	WL, WQ	WQ	---	---	WQ
MW-65A	X	---	X	---	WL, WQ	---	WQ	WQ	WQ
MW-66A	X	---	X	---	WL, WQ	---	---	WQ	WQ
MW-67A	X	---	X	---	WL	---	---	WQ	---
MW-83A	X	---	X	---	WL	---	WQ	WQ	---
MW-84A	X	---	X	---	WL	---	WQ	WQ	---
MW-85C	X	---	X	---	WL	---	WQ	---	---
W-125	X	---	X	---	WL	---	---	---	WQ
W-126R	X	---	X	---	WL, WQ	WQ	---	WQ	WQ
Extraction System	---	X	X	X	WL, EX	WQ	---	---	---
Monitoring Frequency	Semi Annual	Annual	Semi Annual	Monthly	---	---	---	---	---
Evaluation Frequency	---	---	---	---	Annual	Annual	Annual	Annual	Annual

Notes:

* Monitoring location is also a Coal Combustion Residual (CCR) Downgradient Boundary Compliance Well evaluated for Appendix III and IV constituents on a semi annual basis for CCR Compliance Monitoring.

** - All data is evaluated on an annual frequency

FAP - Fly Ash Pond

COC - Constituent of Concern. The current identified COC is arsenic, fluoride, lithium, and molybdenum at the FAP.

GWPSs - Groundwater Protection Standards

MNA - Monitored Natural Attenuation

WL - Water level monitoring

WQ - Water quality analysis for field parameters, arsenic, fluoride, lithium, and molybdenum

EX - Extraction well monitoring for pump hours, flowrate, and volume

Table 15
Schedule of Remedial Activities

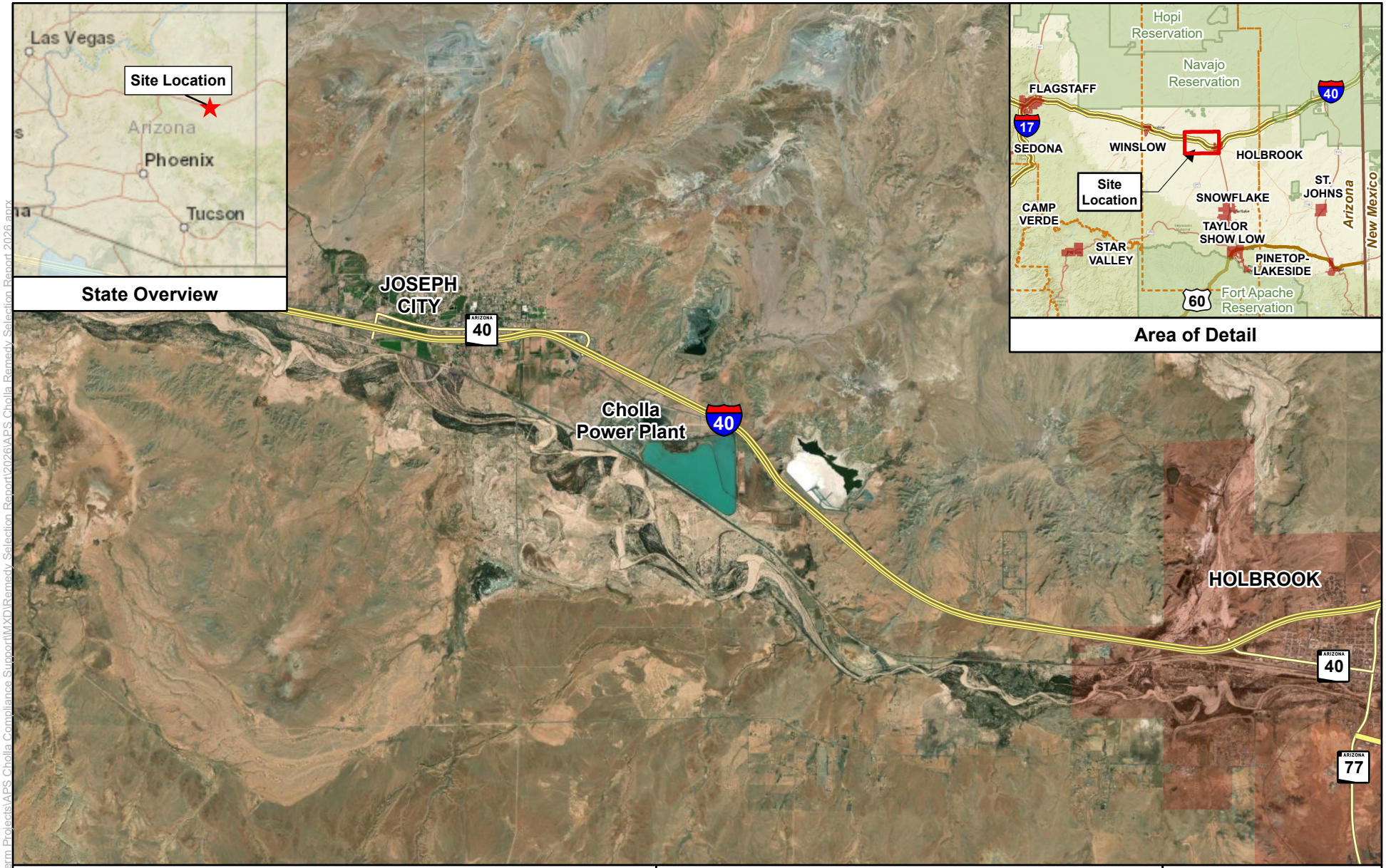
Activity	Date
Assessment of Corrective Measures Completed	June 14, 2019
Assessment of Corrective Measures Public Meeting	August 17, 2022
Selection of Remedy by APS	May 29, 2026
Initiate Corrective Action Program Activities (Within 90 Days of Selecting a Remedy, per the CCR Rule)	August 27, 2026
Establish a Corrective Action Groundwater Monitoring Program	August 27, 2026
Corrective Action Groundwater Monitoring Commences	Semi Annual Event 2 2026
Implementation of Adaptive Site Management for Remediation (i.e., as required, implement other methods or techniques that could feasibly achieve compliance with the corrective measure requirements of the CCR Rule)	As determined to be necessary during the implementation of the selected remedy.
Initiate design and implementation of additional extraction wells	Fourth quarter of 2026
Completion of the Corrective Action Program	Pending the attainment of the completion requirements presented in the CCR Rule (§ 257.98)

Acronyms:

APS - Arizona Public Service Company

CCR - Coal Combustion Residuals

Figures



0 0.75 1.5 3 Miles

Job No.	US0043274.2036
PM:	MBH
Date:	2/18/2026
Scale:	1" = 1.5 miles

N

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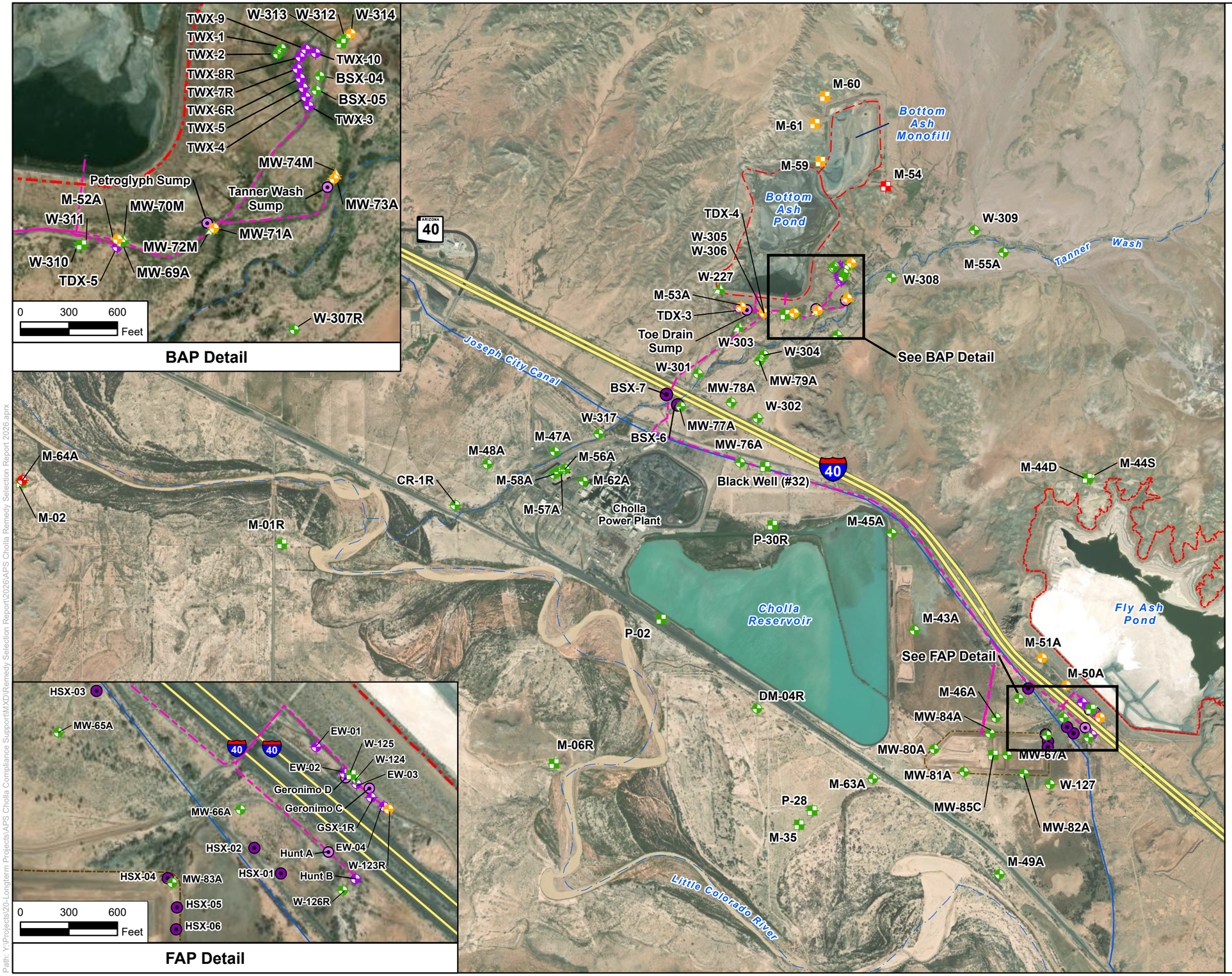
Arizona Public Service
Cholla Power Plant
Navajo County, Arizona

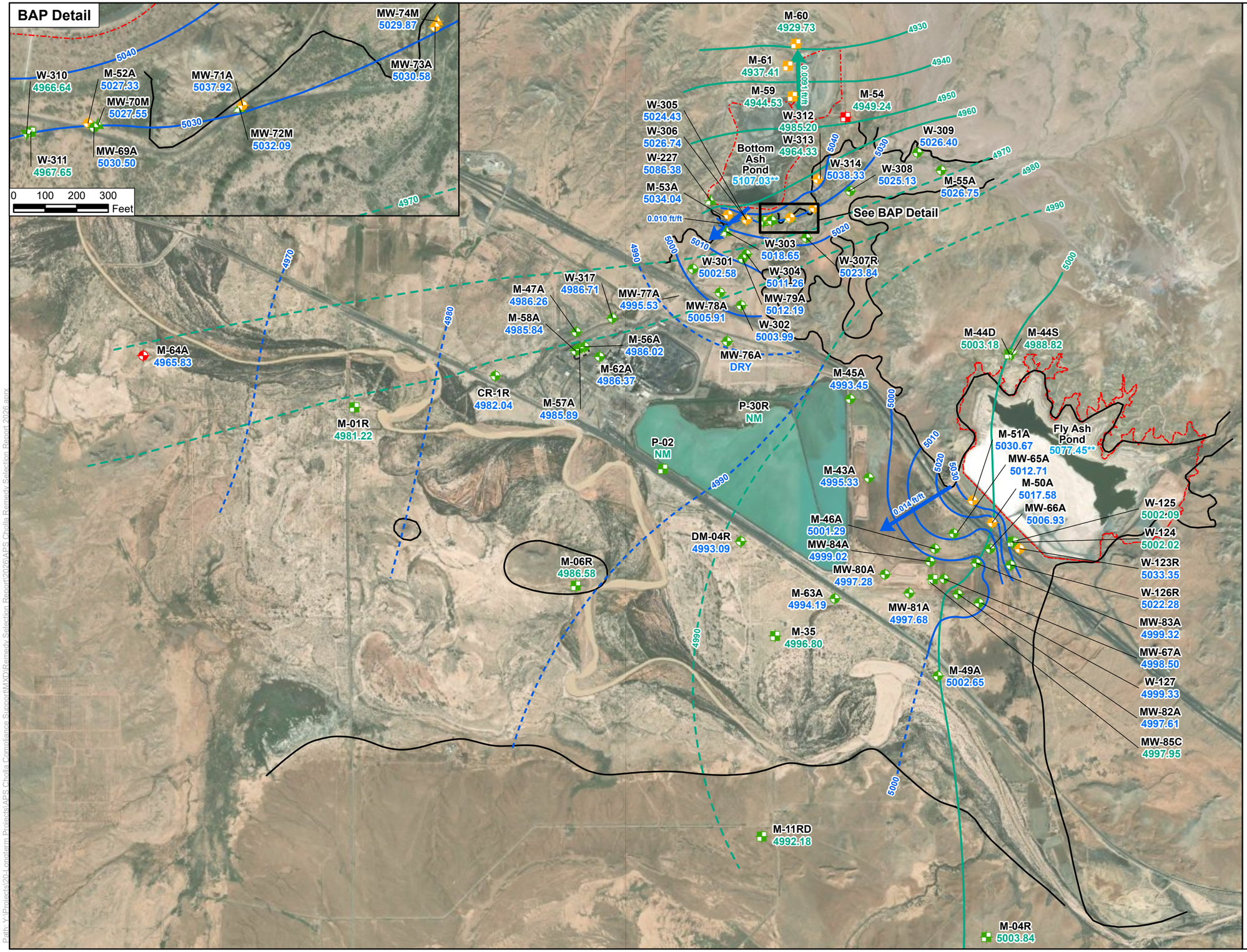
Site Location Map

FIGURE
1

wsp

Path: Y:\Projects\20-Longterm Projects\APS Cholla Compliance Support\MXD\Remedy Selection Report\2026\APS Cholla Remedy Selection Report 2026.aprx


TWX-9
W-313
W-312
W-314
TWX-1
TWX-2
TWX-10
TWX-8R
BSX-04
TWX-7R
BSX-05
TWX-6R
TWX-3
TWX-5
TWX-4
MW-74M
Petroglyph Sump
Tanner Wash Sump
MW-73A
M-52A
MW-70M
W-311
MW-71A
MW-72M
W-310
TDX-5
MW-69A
0 300 600 Feet
W-307R
BAP Detail
M-60
M-61
Bottom Ash Monofill
M-59
M-54
Bottom Ash Pond
TDX-4
W-309
W-305
W-306
M-55A
Tanner Wash
W-227
W-308
M-53A
TDX-3
Toe Drain Sump
W-303
W-304
See BAP Detail
W-301
MW-79A
BSX-7
MW-78A
W-302
Joseph City Canal
W-317
MW-77A
M-47A
BSX-6
MW-76A
M-64A
M-48A
M-56A
Black Well (#32)
M-44D
M-44S
CR-1R
M-58A
M-62A
M-02
M-57A
Cholla Power Plant
M-01R
P-30R
M-45A
Cholla Reservoir
Fly Ash Pond
M-43A
P-02
See FAP Detail
M-51A
M-50A
DM-04R
M-46A
MW-84A
M-06R
MW-80A
MW-67A
MW-81A
M-63A
W-127
P-28
MW-85C
MW-82A
M-35
M-49A
Little Colorado River
HSX-03
MW-65A
EW-01
W-125
W-124
EW-02
EW-03
Geronimo D
MW-66A
Geronimo C
GSX-1R
HSX-02
Hunt A
EW-04
W-123R
HSX-04
MW-83A
HSX-01
Hunt B
W-126R
HSX-05
HSX-06
0 300 600 Feet
FAP Detail
Legend
Monitoring Well Location
Alluvial Monitoring Well
C-Aquifer Monitoring Well
Moenkopi Formation (Moqui Member) Monitoring Well
Moenkopi Formation (Wupatki Member) Monitoring Well
CCR Monitoring Well - Background, Alluvial
CCR Monitoring Well - Background, C-Aquifer
CCR Monitoring Well - Downgradient Boundary, Alluvial
CCR Monitoring Well - Downgradient Boundary, C-Aquifer
CCR Monitoring Well - Downgradient Boundary, Moenkopi Formation (Moqui Member)
Other Features
Extraction Well
Seepage Collection Sump
Future Extraction Well
Ephemeral Surface Water Feature
Canal
Extraction Piping
Evaporation Pond
Approximate Extent of CCR Unit
Approximate Extent of Closed CCR Unit
Notes and Abbreviations:
MW-65A Well Identification
CCR Coal Combustion Residuals
FAP Fly Ash Pond
BAP Bottom Ash Pond
In previous documents TDX-3 is also known as BSX-01, TDX-4 is also known as BSX-02, and TDX-5 is also known as BSX-03
TWX area is also referred to as the P-226 or B-226 area on some historical drawings and figures.
0 1,000 2,000 Feet
N
Arizona Public Service
Cholla Power Plant
Navajo County, Arizona
FIGURE 2
Site and System Overview Map
Job No. US0043274.2036
PM: MBH
Date: 5/28/2026
Scale: 1" = 2,000 feet
wsp
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Path: Y:\Projects\20-Longterm Projects\APS Cholla Compliance Support\MXD\Remedy Selection Report\2026\APS Cholla Remedy Selection Report 2026 aprx



Legend

Monitoring Well Location

- Alluvial Monitoring Well
- C-Aquifer Monitoring Well
- Moenkopi Formation (Moqui Member) Monitoring Well
- Moenkopi Formation (Wupatki Member) Monitoring Well
- CCR Monitoring Well - Background, Alluvial
- CCR Monitoring Well - Background, C-Aquifer
- CCR Monitoring Well - Downgradient Boundary, Alluvial
- CCR Monitoring Well - Downgradient Boundary, C-Aquifer
- CCR Monitoring Well - Downgradient Boundary, Moenkopi Formation (Moqui Member)
- Groundwater Flow Direction
- Groundwater Elevation Contour (ft amsl) Alluvial Aquifer (dashed where inferred)
- Groundwater Elevation Contour (ft amsl) C-Aquifer (dashed where inferred)
- Extent of Alluvium (Not Fully Defined) provided by Montgomery and Associates
- Approximate Extent of CCR Unit

Notes and Abbreviations:

MW-65A	Well Identification
5012.71	Alluvial/ Moenkopi Moqui Groundwater Elevation (ft amsl)
5002.09	C-Aquifer/Moenkopi Wupatki Groundwater Elevation (ft amsl)
5077.45	CCR Surface Water Elevation
NM	No Measurement because of physical restrictions present in well.
**	Pond elevations provided by APS on October 7th, 2025.
ft amsl	Feet above mean sea level
CCR	Coal Combustion Residuals
BAP	Bottom Ash Pond

0 1,200 2,400
Feet

N

Arizona Public Service
Cholla Power Plant
Navajo County, Arizona

Figure 3

Potentiometric Surface Map Semi Annual Event 2 2025

Job No. US0043274.2036
PM: MBH
Date: 5/21/2026
Scale: 1"= 2,400 feet

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Path: Y:\Projects\20-Longterm Projects\APS Cholla Compliance Support\MXD\Remedy Selection Report\2026\APS Cholla Remedy Selection Report 2026.aprx

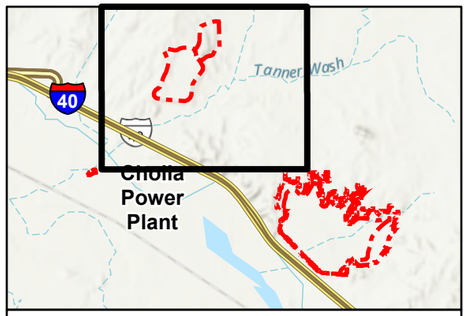
M-52A	
5027.33	
Analyte	**Conc**
Co	0.0311
MW-69A	
5030.50	
Analyte	**Conc**
Co	0.0131
MW-70M	
5027.55	
Analyte	**Conc**
Co	0.0124

M-53A	
5007.28	
Analyte	**Conc**
Co	0.00494

W-304	
5011.26	
Analyte	**Conc**
Co	0.00925

MW-73A	
5030.58	
Analyte	**Conc**
Co	<0.01000
MW-74M	
5029.87	
Analyte	**Conc**
Co	0.011

MW-71A	
5037.92	
Analyte	**Conc**
Co	<0.01000
MW-72M	
5032.09	
Analyte	**Conc**
Co	<0.0100



Site Vicinity

Legend

Monitoring Well Location
- Alluvial Monitoring Well
- C-Aquifer Monitoring Well
- Moenkopi Formation (Moqui Member) Monitoring Well
- Moenkopi Formation (Wupatki Member) Monitoring Well
- CCR Monitoring Well - Background, C-Aquifer
- CCR Monitoring Well - Downgradient Boundary, Alluvial
- CCR Monitoring Well - Downgradient Boundary, C-Aquifer
- CCR Monitoring Well - Downgradient Boundary, Moenkopi Formation (Moqui Member)

Piezometer Location
- Alluvial Piezometer
- Moenkopi Formation (Moqui Member) Piezometer

Other Features
- Extraction Well
- Seepage Collection Sump
- Groundwater Elevation Contour (ft amsl) Alluvial Aquifer; dashed where inferred
- Groundwater Elevation Contour (ft amsl) C-Aquifer
- Approximate Extent of CCR Unit
- Canal
- Ephemeral Surface Water Feature
- Cross Section
- ADOT Right of Way

Cobalt Concentration in Groundwater (SA 2 2025)
- >0.006 mg/L
- GWPS (0.006 mg/L; Dashed Where Inferred)
- Seepage Intercept Trenches

Notes and Abbreviations:

W-304	Well Identification
5011.26	Alluvial/ Moenkopi Moqui Groundwater Elevation (ft amsl) October 2025
5003.18	C-Aquifer/Moenkopi Wupatki Groundwater Elevation (ft amsl) October 2025
5170.03	CCR Surface Water Elevation October 2025
0.00925	Cobalt concentration (mg/L) sampled October 2025
J	Result is estimated quantity
mg/L	Milligrams per liter
CCR	Coal Combustion Residuals
GWPS	Groundwater Protection Standard

N

0 425 850 1,700 Feet

Arizona Public Service
Cholla Power Plant
Navajo County, Arizona

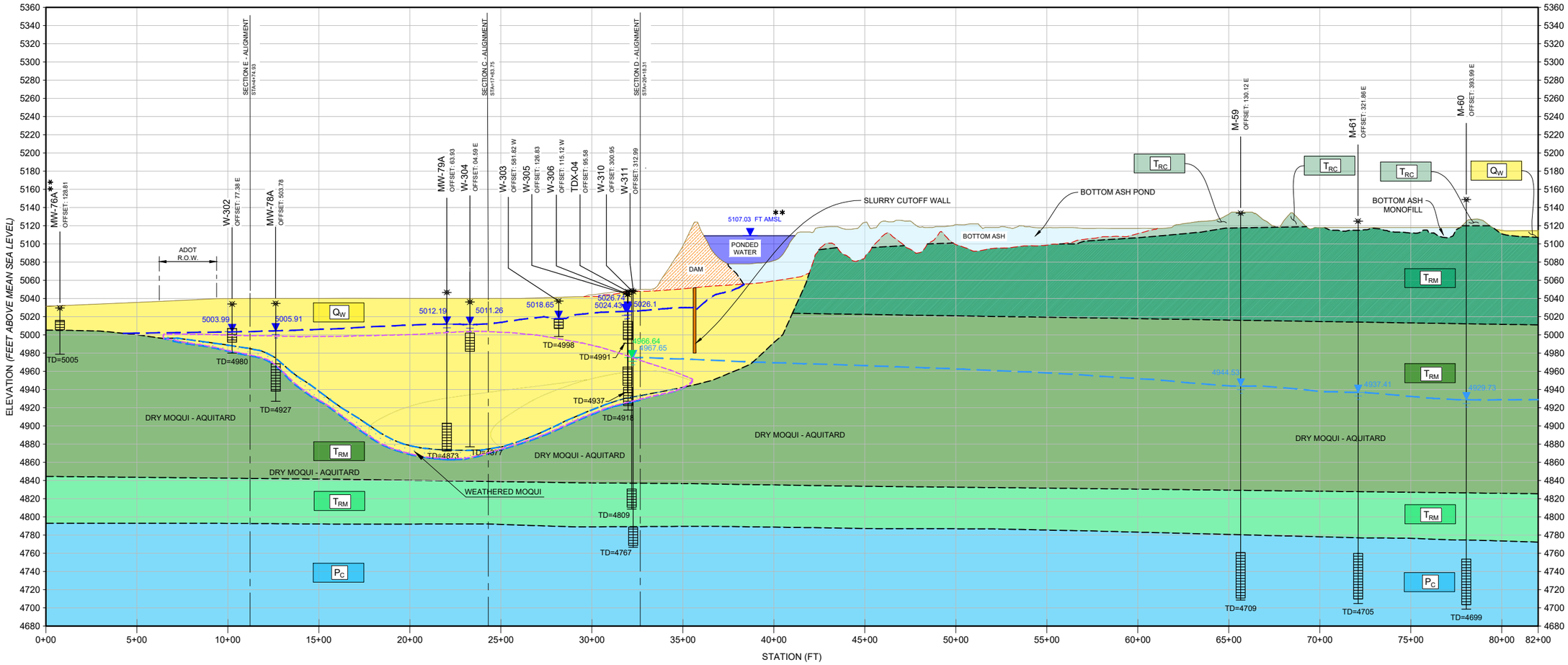
FIGURE **4**

BAP Cross Section Plan View with Cobalt Plume

Job No.	US0043274.2036
PM:	MBH
Date:	5/28/2026
Scale:	1"= 850'

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SECTION A
FIG 4

HORIZONTAL
300 0 300 600 FT

VERTICAL
60 0 60 120 FT

LEGEND:

- EXISTING GROUND SURFACE
- ORIGINAL GROUND SURFACE
- CONTACT BETWEEN UNITS
- CONTACT DASH WHERE INFERRED
- MONITORING WELL OR PIEZOMETER
- SCREEN INTERVAL
- TD=4978 TOTAL DEPTH
- BORING
- TD=4978 TOTAL DEPTH

- Q_W ALLUVIUM
- T_{RC} CHINLE FORMATION
- T_{RM} HOLBROOK (MEMBER OF MOENKOPI)
- T_{RM} MOQUI (MEMBER OF MOENKOPI)
- T_{RM} WUPATKI (MEMBER OF MOENKOPI)
- P_C COCONINO SANDSTONE
- DAM
- BOTTOM ASH
- OBSERVED MOISTURE IN THE MOQUI

WATER LEVEL OCTOBER 2025
- ALLUVIUM
- WUPATKI (MEMBER OF MOENKOPI)
- COCONINO SANDSTONE

POTENTIOMETRIC SURFACE
- ALLUVIUM
- COCONINO SANDSTONE

WELLS
- EXISTING WELL

COBALT CONCENTRATION IN GROUNDWATER (OCTOBER 2025)
- COBALT 0.006 MG/L

NOTE:
* WELL WAS DRY AND NO SAMPLE OR WATER LEVEL COLLECTED
** WATER LEVEL IS VARIABLE

VER.	Date	Revision	Drawn/Approved
1	3/31/2026	Remedy Selection Report	AV / MH
0	1/31/2023	BAPD Pre-design Report	AV / MH

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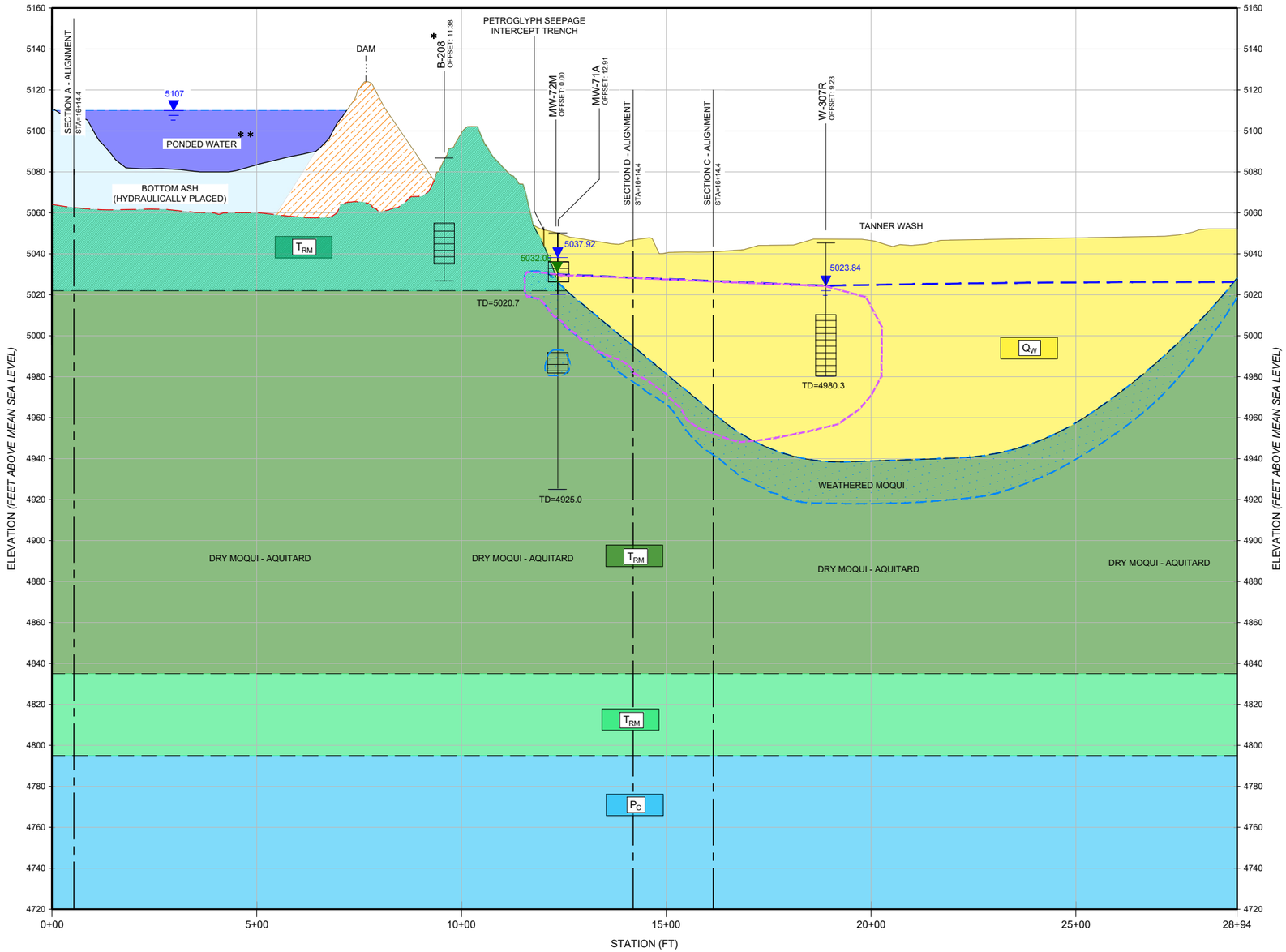
YYYY-MM-DD	2025-02-10
DESIGNED	AV
PREPARED	AV
REVIEWED	RW
APPROVED	MH

PROJECT
CHOLLA REMEDY SELECTION REPORTFOR THE BAP AND FAP

TITLE
CROSS SECTION A; BAM and BAP

PROJECT NO.	CONTROL	REV	FIGURE No.
US0043274.2036	-	1	5

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SECTION B
FIG 4

HORIZONTAL
150 0 150 300 FT

VERTICAL
30 0 30 60 FT

LEGEND:

- EXISTING GROUND SURFACE
- ORIGINAL GROUND SURFACE
- CONTACT BETWEEN UNITS
- CONTACT DASH WHERE INFERRED
- MONITORING WELL OR PIEZOMETER
- SCREEN INTERVAL
- TD=4978 TOTAL DEPTH

- Q_W ALLUVIUM
- T_{RM} HOLBROOK (MEMBER OF MOENKOPI)
- T_{RM} MOQUI (MEMBER OF MOENKOPI)
- T_{RM} WUPATKI (MEMBER OF MOENKOPI)
- P_C COCONINO SANDSTONE
- DAM
- BOTTOM ASH
- OBSERVED MOISTURE IN THE MOQUI

WATER LEVEL OCTOBER 2025
- ALLUVIUM

POTENTIOMETRIC SURFACE
- ALLUVIUM

COBALT CONCENTRATION IN GROUNDWATER (OCTOBER 2025)
- COBALT 0.006 MG/L

NOTE:

* WELL WAS DRY AND NO SAMPLE OR WATER LEVEL COLLECTED
** WATER LEVEL IS VARIABLE

REV.	Date	Revision	Drawn/Approved
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0	1/31/2023	BAPD Pre-design Report	AV / MH

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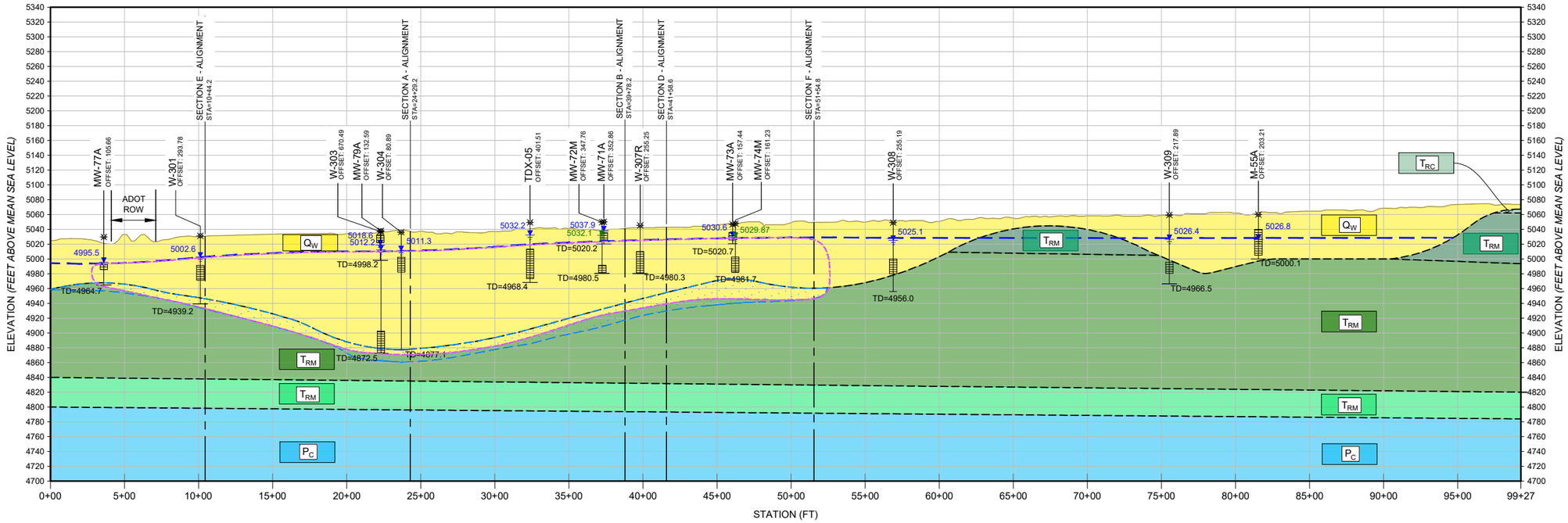
PROJECT
CHOLLA REMEDY SELECTION REPORT FOR THE BAP AND FAP

TITLE
CROSS SECTION B - BAP

YYYY-MM-DD	2025-07-14
DESIGNED	AV
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PROJECT NO.	CONTROL	REV	FIGURE No.
US0043274.2036	-	A	6

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SECTION C
FIG 4

HORIZONTAL
400 0 400 800 FT

VERTICAL
80 0 80 160 FT

LEGEND:

- EXISTING GROUND SURFACE
- CONTACT BETWEEN UNITS
- CONTACT DASH WHERE INFERRED
- MONITORING WELL OR PIEZOMETER
- SCREEN INTERVAL
- TD=4978 TOTAL DEPTH
- BORING
- TD=4978 TOTAL DEPTH

- Q_W ALLUVIUM
- T_{RC} CHINLE FORMATION
- T_{RM} HOLBROOK (MEMBER OF MOENKOPI)
- T_{RM} MOQUI (MEMBER OF MOENKOPI)
- T_{RM} WUPATKI (MEMBER OF MOENKOPI)
- P_C COCONINO SANDSTONE
- OBSERVED MOISTURE IN THE MOQUI

WATER LEVEL OCTOBER 2025
- ALLUVIUM
- MOQUI (MEMBER OF MOENKOPI)

POTENTIOMETRIC SURFACE
- ALLUVIUM
- MOQUI (MEMBER OF MOENKOPI)

COBALT CONCENTRATION IN GROUNDWATER (OCTOBER 2025)
- COBALT 0.006 MG/L

REV.	Date	Revision	Drawn/Approved
1	3/31/2026	Remedy Selection Report	AV / MH
0	1/31/2023	BAPD Pre-design Report	AV / MH

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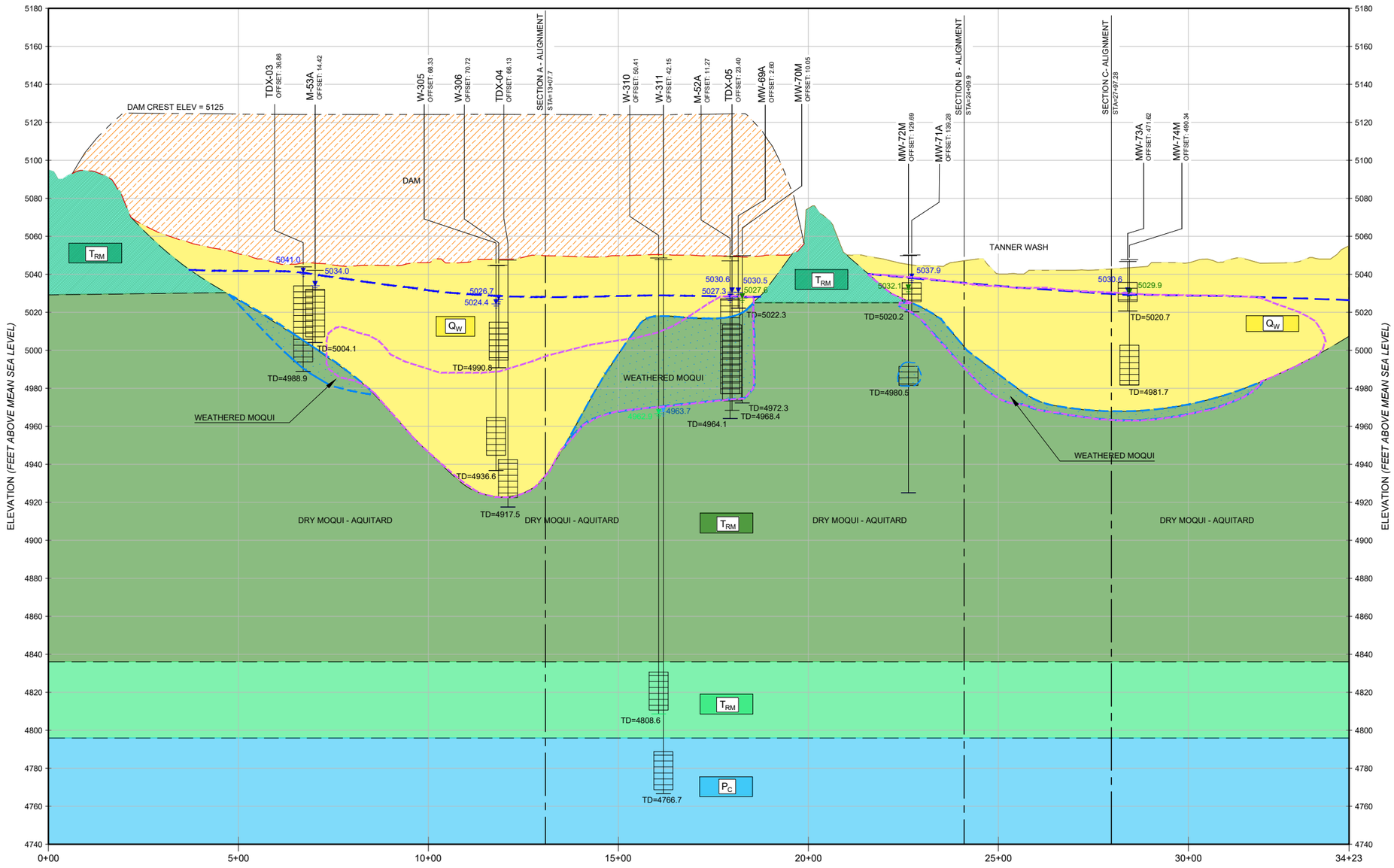
YYYY-MM-DD	2025-07-14
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REVIEWED	RW
APPROVED	MH

PROJECT
CHOLLA REMEDY SELECTION REPORT FOR THE BAP AND FAP

TITLE
CROSS SECTION C - BAP

PROJECT NO.	CONTROL	REV	FIGURE No.
US0043274.2036	-	A	7

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SECTION D
FIG 4

HORIZONTAL
150 0 150 300 FT

VERTICAL
30 0 30 60 FT

LEGEND:

- EXISTING GROUND SURFACE
- ORIGINAL GROUND SURFACE
- CONTACT BETWEEN UNITS
- CONTACT DASH WHERE INFERRED
- MONITORING WELL OR PIEZOMETER
- SCREEN INTERVAL
- TD=4978 — TOTAL DEPTH

- Q_W ALLUVIUM
- T_{RM} HOLBROOK (MEMBER OF MOENKOPI)
- T_{RM} MOQUI (MEMBER OF MOENKOPI)
- T_{RM} WUPATKI (MEMBER OF MOENKOPI)
- P_C COCONINO SANDSTONE
- SEDIMENT
- DAM
- OBSERVED MOISTURE IN THE MOENKOPI

WATER LEVEL OCTOBER 2025
- ALLUVIUM
- MOQUI (MEMBER OF MOENKOPI)
- WUPATKI (MEMBER OF MOENKOPI)
- COCONINO SANDSTONE

POTENTIOMETRIC SURFACE
- ALLUVIUM

COBALT CONCENTRATION IN GROUNDWATER (OCTOBER 2025)
- COBALT 0.006 MG/L

REV.	Date	Revision	Drawn/Approved
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0	1/31/2023	BAPD Pre-design Report	AV / MH

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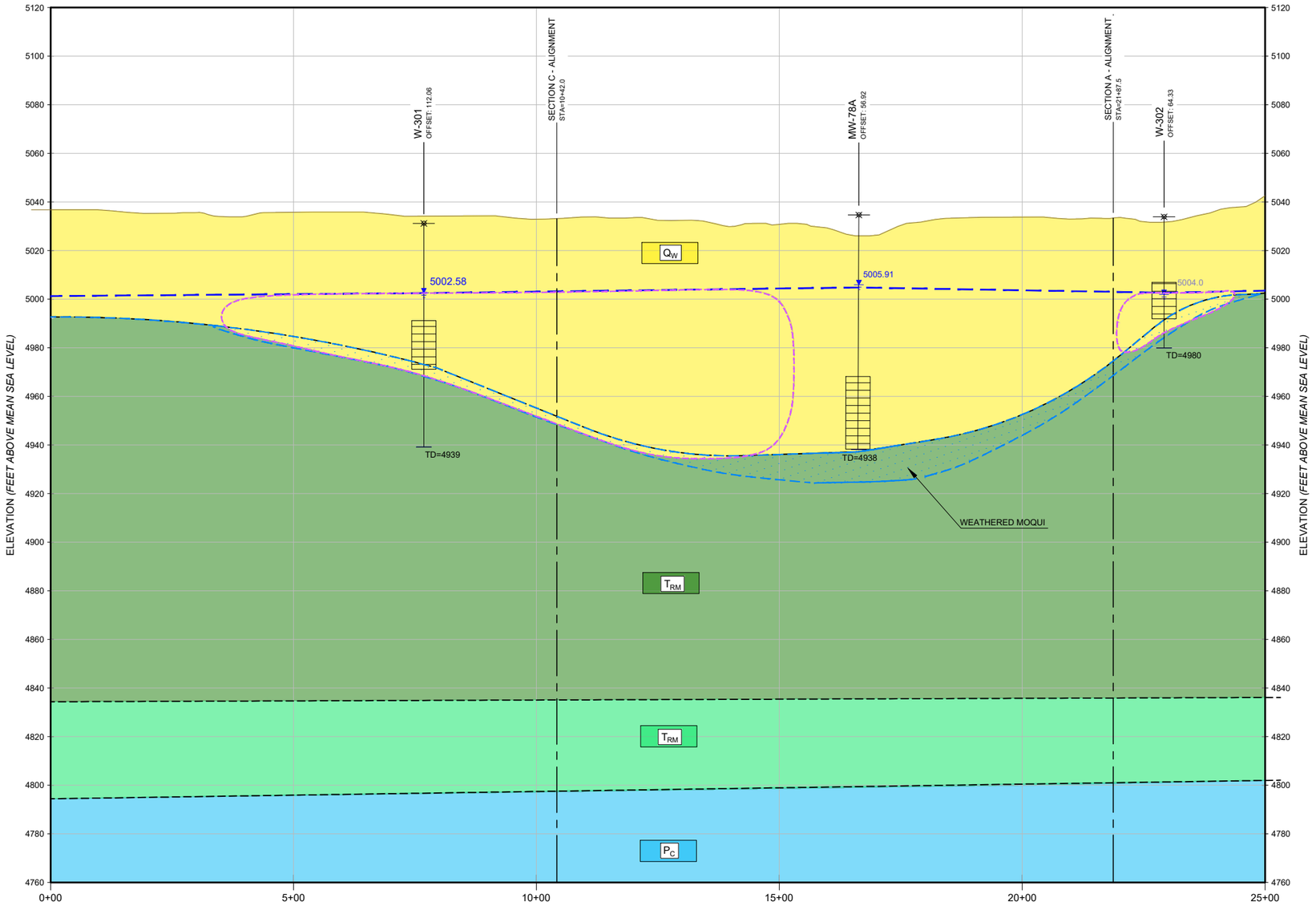
PROJECT
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TITLE
CROSS SECTION D - BAP

YYYY-MM-DD	2025-07-14
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PREPARED	AV
REVIEWED	RW
APPROVED	MH

PROJECT NO.	CONTROL	REV	FIGURE No.
US0043274.2036	-	A	8

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SECTION E

FIG 4

LEGEND:

- EXISTING GROUND SURFACE
- CONTACT BETWEEN UNITS
- CONTACT DASH WHERE INFERRED
- MONITORING WELL OR PIEZOMETER
- SCREEN INTERVAL
- TD=4978 TOTAL DEPTH
- BORING
- TD=4978 TOTAL DEPTH

- Q_W ALLUVIUM
- T_{RM} MOQUI (MEMBER OF MOENKOPI)
- T_{RM} WUPATKI (MEMBER OF MOENKOPI)
- P_C COCONINO SANDSTONE
- SEDIMENT
- OBSERVED MOISTURE IN THE MOQUI

WATER LEVEL OCTOBER 2025

- ALLUVIUM

POTENTIOMETRIC SURFACE

- ALLUVIUM

COBALT CONCENTRATION IN GROUNDWATER (OCTOBER 2025)

- COBALT 0.006 MG/L

HORIZONTAL
125 0 125 250 FT

VERTICAL
25 0 25 50 FT

REV.	Date	Revision	Drawn/Approved
1	3/31/2026	Remedy Selection Report	AV / MH
0	1/31/2023	BAPD Pre-design Report	AV / MH

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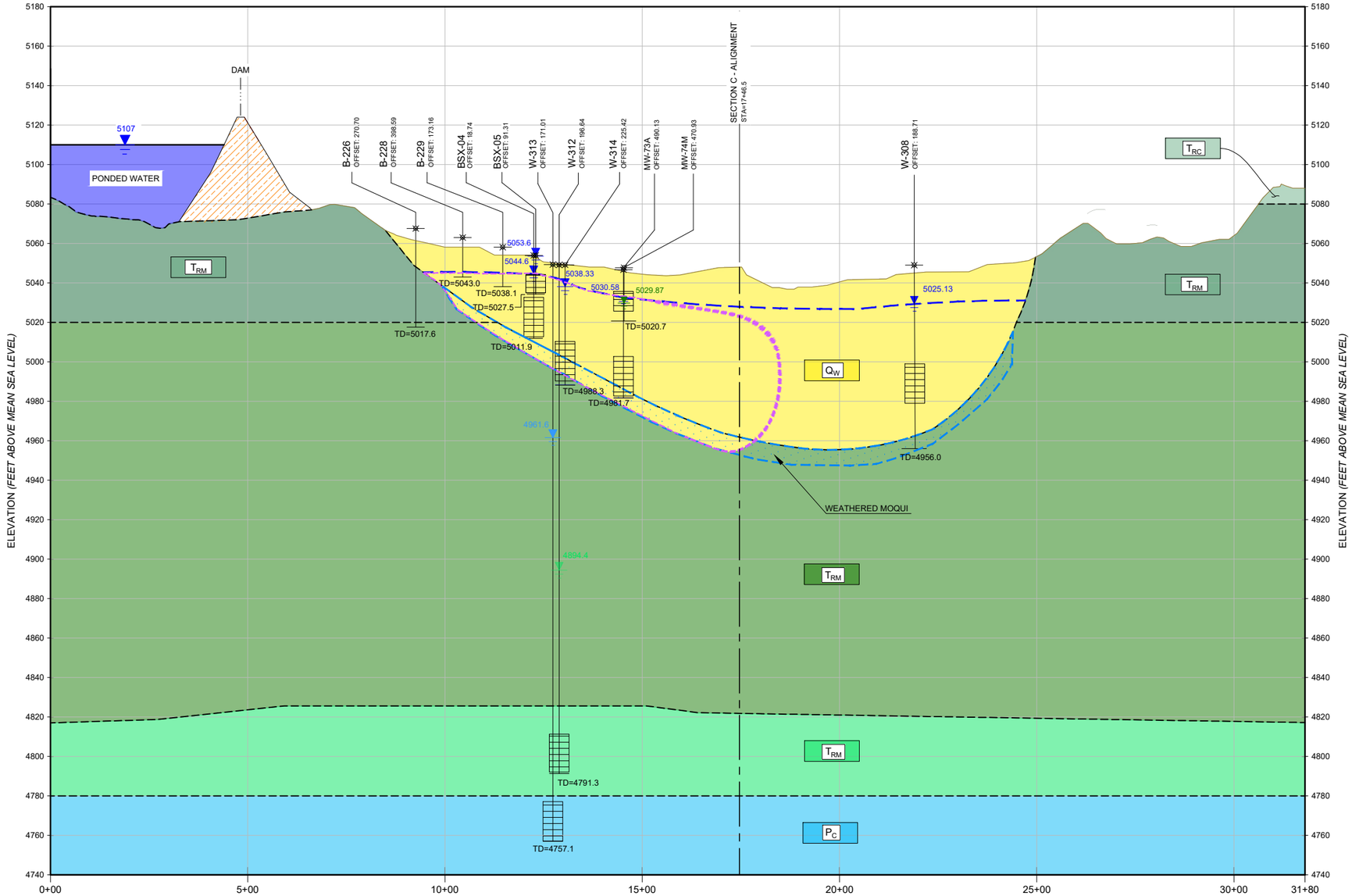
YYYY-MM-DD	2025-07-14
DESIGNED	AV
PREPARED	AV
REVIEWED	RW
APPROVED	MH

PROJECT
CHOLLA REMEDY SELECTION REPORT FOR THE BAP AND FAP

TITLE
CROSS SECTION E - BAP

PROJECT NO.	CONTROL	REV	FIGURE No.
US0043274.2036	-	A	9

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SECTION F
FIG 4

HORIZONTAL
150 0 150 300 FT

VERTICAL
30 0 30 60 FT

LEGEND:

- EXISTING GROUND SURFACE
- ORIGINAL GROUND SURFACE
- CONTACT BETWEEN UNITS
- CONTACT DASH WHERE INFERRED
- MONITORING WELL OR PIEZOMETER
- SCREEN INTERVAL
- TD=4978 — TOTAL DEPTH
- BORING
- TD=4978 — TOTAL DEPTH

- Q_W ALLUVIUM
- T_{RC} CHINLE FORMATION
- T_{RM} HOLBROOK (MEMBER OF MOENKOPI)
- T_{RM} MOQUI (MEMBER OF MOENKOPI)
- T_{RM} WUPATKI (MEMBER OF MOENKOPI)
- P_C COCONINO SANDSTONE
- DAM
- BOTTOM ASH

OBSERVED MOISTURE IN THE MOQUI

WATER LEVEL OCTOBER 2025
- ALLUVIUM
- MOQUI (MEMBER OF MOENKOPI)
- WUPATKI (MEMBER OF MOENKOPI)
- COCONINO SANDSTONE

POTENTIOMETRIC SURFACE
- ALLUVIUM

COBALT CONCENTRATION IN GROUNDWATER (OCTOBER 2025)
- COBALT 0.006 MG/L

REV.	Date	Revision	Drawn/Approved
1	3/31/2026	Remedy Selection Report	AV / MH
0	1/31/2023	BAPD Pre-design Report	AV / MH

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YYYY-MM-DD	2025-02-10
DESIGNED	AV
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REVIEWED	RW
APPROVED	MH

PROJECT
CHOLLA REMEDY SELECTION REPORT FOR THE BAP AND FAP

TITLE
CROSS SECTION F - BAP

PROJECT NO.	CONTROL	REV	FIGURE No.
US0043274.2036	-	1	10

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M-51A	
5030.67	
Analyte	**Conc**
As	0.0248
F	5.25
Li	0.457
Mo	0.135

MW-65A	
5012.71	
Analyte	**Conc**
As	0.0084 J
F	3.32
Li	0.991
Mo	0.27

M-46A	
5001.29	
Analyte	**Conc**
As	0.0103 J
F	<1.50
Li	0.313
Mo	<0.0500

M-50A	
5017.58	
Analyte	**Conc**
As	0.00404 J
F	2.14
Li	0.448
Mo	<0.0500

W-125	
5002.09	
Analyte	**Conc**
As	0.0279
F	<0.75
Li	0.0302
Mo	<0.0500

MW-67A	
5001.12	
Analyte	**Conc**
As	0.00582
F	0.591 J
Li	0.154
Mo	<0.0500

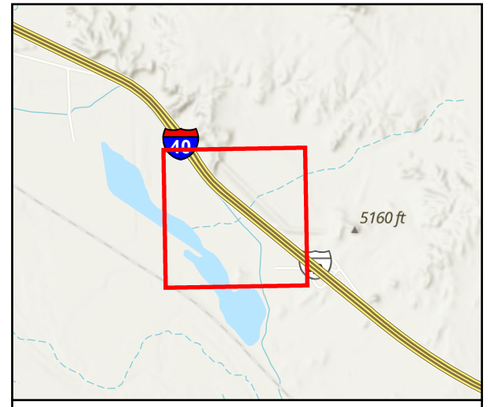
MW-82A	
4997.90	
Analyte	**Conc**
As	NS
F	NS
Li	NS
Mo	NS

MW-83A*	
4999.32	
Analyte	**Conc**
As	0.00319
F	<0.0761
Li	0.247
Mo	<0.005

MW-66A	
5006.93	
Analyte	**Conc**
As	0.0045 J
F	<1.50
Li	0.523
Mo	<0.0500

W-126R	
5022.28	
Analyte	**Conc**
As	0.000698 J
F	5.57
Li	0.642
Mo	0.228

W-123R	
5033.35	
Analyte	**Conc**
As	0.00574 J
F	5.76
Li	0.743
Mo	<0.0500



SITE LOCATION MAP

Legend

- Alluvial Monitoring Well
- C-Aquifer Monitoring Well
- Moenkopi Formation (Wupatki Member) Monitoring Well
- CCR Monitoring Well - Downgradient Boundary, Alluvial
- Alluvial Piezometer
- Coconino Piezometer
- Moenkopi Formation (Moqui Member) Piezometer
- Moenkopi Formation (Wupatki Member) Piezometer
- Extraction Well
- Seepage Collection Sump
- Abandoned Well

Arsenic Concentration in Groundwater (October 2025)
- >0.010 mg/L
- GWPS (0.010 mg/L; Dashed Where Inferred)

Molybdenum Concentration in Alluvial Aquifer (October 2025)
- > 0.10 mg/L
- GWPS (0.10 mg/L; Dashed Where Inferred)

Fluoride Concentration in Alluvial Aquifer (October 2025)
- > 4.0 mg/L
- GWPS (4.0 mg/L; Dashed Where Inferred)

Lithium Concentration in Alluvial Aquifer (October 2025)
- > 0.418 mg/L
- GWPS (0.418 mg/L; Dashed Where Inferred)
- Groundwater Elevation Contour (ft amsl) Alluvial Aquifer; dashed where inferred
- Groundwater Elevation Contour (ft amsl) C-Aquifer
- Cross sections
- Seepage Intercept Trenches

Notes and Abbreviations:

W-126R	Well Identification
5022.28	Alluvial/ Moenkopi Moqui Groundwater Elevation (ft amsl) October 2025
5002.09	C-Aquifer/Moenkopi Wupatki Groundwater Elevation (ft amsl) October 2025
J	Result is estimated quantity
NS	Not sampled due to inadequate water amount
*	Sampled in April 2025
mg/L	Milligrams per liter
CCR	Coal Combustion Residuals
GWPS	Groundwater Protection Standard

250 0 250 500 Feet

N

Arizona Public Service
Cholla Power Plant
Navajo County, Arizona

Figure 11 **FAP Cross Section Plan View with Contaminant of Concern Plumes**

Job No.	US0043274.2036
PM:	MBH
Date:	5/28/2026
Scale:	1"= 40 miles

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NW

ELEVATION (FT)

M-46A OFFSET: 124.45
MW-65A OFFSET: 41.71
MW-68M OFFSET: 81.84
F-93 OFFSET: 395.62
F-106 OFFSET: 632.28
SECTION I - ALIGNMENT STA=31+52.94
F-103 OFFSET: 42.69
M-51A OFFSET: 35.02
F-102 OFFSET: 217.75
F-101 OFFSET: 447.71
F-105 OFFSET: 367.62
CLAY CORE
ADOT R.O.W.
FLY ASH POND
ARSENIC 0.1 mg/L
FLUORIDE 4.0 mg/L
MOLYBDENUM 0.1 mg/L
LITHIUM 0.4 mg/L
5001.29
5012.71
5017.9
5015.6
5018.5
5025.6
5047.6
5030.4
TD=4983.36
TD=5001.21
TD=4976.10
TD=5080.00
TD=4999.31
TD=4978.65
TD=4994.28
TD=5025.10
TD=5004.54
TD=5019.4
Q_W (WASH ALLUVIUM)
WEATHERED MOQUI
T_{RM} (MOQUI)
T_{RM} (WUPATKI)
P_C (COCONINO SANDSTONE)

5+00 10+00 15+00 20+00 25+00 30+00

LEGEND:

- EXISTING GROUND SURFACE
- FLY ASH POND CREST
- CONTACT BETWEEN UNITS
- CONTACT DASH WHERE INFERRED
- ARSENIC CONCENTRATION IN GROUNDWATER (OCTOBER 2025) 0.1 mg/L
- FLUORIDE CONCENTRATION IN ALLUVIAL AQUIFER (OCTOBER 2025) 4.0 mg/L
- LITHIUM CONCENTRATION IN ALLUVIAL AQUIFER (OCTOBER 2025) 0.418 mg/L
- MOLYBDENUM CONCENTRATION IN ALLUVIAL AQUIFER (OCTOBER 2025) 0.1 mg/L

MONITONING WELL, PIEZOMETER, OR VWP
SCREEN INTERVAL
TD=4978 TOTAL DEPTH

- Q_W WASH ALLUVIUM
- T_{RM} MOQUI (MEMBER OF MOENKOPI)
- T_{RM} WUPATKI (MEMBER OF MOENKOPI)
- P_C COCONINO SANDSTONE
- OBSERVED MOISTURE IN THE MOQUI

WATER LEVEL OCTOBER 2025
- ALLUVIUM
- MOQUI (MEMBER OF MOENKOPI)

POTENTIOMETRIC SURFACE
- ALLUVIUM
- MOQUI (MEMBER OF MOENKOPI)

SECTION G
FIG 11

HORIZONTAL 100 0 100 200 FT
VERTICAL 20 0 20 40

REV.	Date	Revision	Drawn/Approved
1	3/31/2026	Remedy Selection Report	AV / MH
0	1/31/2023	BAPD Pre-design Report	AV / MH

CLIENT
ARIZONA PUBLIC SERVICE COMPANY

CONSULTANT
wsp

YYYY-MM-DD	2025-07-14
DESIGNED	AV
PREPARED	AV
REVIEWED	RW
APPROVED	MH

PROJECT
CHOLLA REMEDY SELECTION REPORT FOR THE BAP AND FAP

TITLE
CROSS SECTION G - FAP

PROJECT NO.	CONTROL	REV	FIGURE No.
US0043274.2036	-	A	12

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NW

ELEVATION (FT)

EVAPORATION POND

EXISITNG GRADE
AT PROFILE ALIGNMENT

HUNT SEEPAGE
INTERCEPT TRENCH

DAM

CLAY CORE

FLY ASH POND

SECTION I - ALIGNMENT
STA=31+50.85

M-67A
OFFSET: 182.92

MW-82A
OFFSET:249.95

W-127
OFFSET: 730.36

MW-83A
OFFSET:267.58

MW-66A
OFFSET:421.85

W-126R
OFFSET: 155.75

GERONIMO B (GSX-2)
OFFSET: 444.75

GSX-1R
OFFSET: 216.49

EW-04
OFFSET: 149.70

W-123R
OFFSET: 127.86

MOLYBDENUM
0.1 mg/L

FLUORIDE
4.0 mg/L

LITHIUM 0.4 mg/L

4998.50

4999.33

5006.93

5022.28

5039.4

5039.35

5014.8

TD=4974.05

TD=4991.88

TD=4972.46

TD=5009.57

TD=4995.00

TD=4981.81

TD=5013.18

TD=5023.03

Q_W (WASH ALLUVIUM)

T_{RM} (MOQUI)

WEATHERED MOQUI

T_{RM} (WUPATKI)

P_C (COCONINO SANDSTONE)

5+00 10+00 15+00 20+00 25+00 30+00

LEGEND:

- EXISTING GROUND SURFACE
- CONTACT BETWEEN UNITS
- CONTACT DASH WHERE INFERRED
- FLUORIDE CONCENTRATION IN ALLUVIAL AQUIFER (OCTOBER 2025) >4.0 mg/L
- MOLYBDENUM CONCENTRATION IN ALLUVIAL AQUIFER (OCTOBER 2025) >0.1 mg/L
- LITHIUM CONCENTRATION IN ALLUVIAL AQUIFER (OCTOBER 2025) >0.40 mg/L

- MONITONING WELL, PIEZOMETER, OR VWP
- SCREEN INTERVAL
- TD=4978 TOTAL DEPTH
- Q_W WASH ALLUVIUM
- T_{RM} MOQUI (MEMBER OF MOENKOPI)
- T_{RM} WUPATKI (MEMBER OF MOENKOPI)
- P_C COCONINO SANDSTONE
- OBSERVED MOISTURE IN THE MOQUI

WATER LEVEL OCTOBER 2025
- ALLUVIUM
- MOQUI (MEMBER OF MOENKOPI)

POTENTIOMETRIC SURFACE
- ALLUVIUM

SECTION H
FIG 11

HORIZONTAL
100 0 100 200 FT

VERTICAL
20 0 20 40

REV.	Date	Revision	Drawn/Approved
1	3/31/2026	Remedy Selection Report	AV / MH
0	1/31/2023	BAPD Pre-design Report	AV / MH

CLIENT
ARIZONA PUBLIC SERVICE COMPANY

CONSULTANT
wsp

YYYY-MM-DD	2025-07-14
DESIGNED	AV
PREPARED	AV
REVIEWED	RW
APPROVED	MH

PROJECT
CHOLLA REMEDY SELECTION REPORT FOR THE BAP AND FAP

TITLE
CROSS SECTION H - FAP

PROJECT NO.	CONTROL	REV	FIGURE No.
US0043274.2036	-	A	13

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NW

APPROXIMATE EXTENT OF CUTOFF SLURRY WALL IN DAM

FLY ASH POND CREST (PROJECTED)

EXISITNG GRADE AT PROFILE ALIGNMENT

SECTION G - ALIGNMENT STA: 19+27.26

SECTION H - ALIGNMENT STA: 36+02.41

F-101 OFFSET: 148.89 — TD=5004.54

F-102 OFFSET: 119.04 — TD=4994.28

M-51A OFFSET: 94.63 — TD=5025.10

F-103 OFFSET: 90.13 — TD=4978.65

F-93 OFFSET: 139.44 — TD=5080.00

F-106 OFFSET: 63.19 — TD=4999.31

M-50A OFFSET: 44.88 — TD=5003.65

F-107 OFFSET: 53.21 — TD=4965.20

EW-01 OFFSET: 14.88 — TD=4946.33

F-91R OFFSET: 18.86 — TD=4995.00

GERONIMO B (GSX-2) OFFSET: 10.59 — TD=4986.02

F-92R OFFSET: 8.21 — TD=4892.71

F-90 OFFSET: 8.07 — TD=4987.01

EW-02 OFFSET: 20.90 — TD=4985.09

W-125 OFFSET: 28.50 — TD=4895.00

W-124 OFFSET: 27.25 — TD=4940.00

EW-03 OFFSET: 22.52 — TD=5017.20

F-111R OFFSET: 26.32 — TD=4986.63

GSX-1R OFFSET: 28.19 — TD=4981.81

EW-04 OFFSET: 40.11 — TD=5018.13

W-123R OFFSET: 47.84 — TD=5020.03

FLUORIDE 4.0 mg/L

LITHIUM 0.5 mg/L

ARSENIC 0.01 mg/L

MOLYBDENUM 0.1 mg/L

5047.67 5030.67 5025.5 5018.5 5017.9 5015.6 5017.58 5026.5 5013.9 5014.5 5013.5 5012 5013.8 5014.8 5039.4 5033.35 4999.5 4998 5012.02

Q_W (WASH ALLUVIUM)

T_{RM} (MOQUI)

T_{RM} (WUPATKI)

P_C (COCONINO SANDSTONE)

ELEVATION (FT)

STATION (FT)

5+00 10+00 15+00 20+00 25+00 30+00 33+18

SECTION I

FIG 11

LEGEND:

- EXISTING GROUND SURFACE
- FLY ASH POND CREST
- CONTACT BETWEEN UNITS
- CONTACT DASH WHERE INFERRED
- ARSENIC CONCENTRATION IN GROUNDWATER (OCTOBER 2025) 0.01 mg/L
- FLUORIDE CONCENTRATION IN ALLUVIAL AQUIFER (OCTOBER 2025) 4.0 mg/L
- LITHIUM CONCENTRATION IN ALLUVIAL AQUIFER (OCTOBER 2025) 0.50 mg/L
- MOLYBDENUM CONCENTRATION IN ALLUVIAL AQUIFER (OCTOBER 2025) 0.1 mg/L

MONITONING WELL, PIEZOMETER, OR VWP

SCREEN INTERVAL

TD=4978 TOTAL DEPTH

- Q_W WASH ALLUVIUM
- T_{RM} MOQUI (MEMBER OF MOENKOPI)
- T_{RM} WUPATKI (MEMBER OF MOENKOPI)
- P_C COCONINO SANDSTONE

WATER LEVEL OCTOBER 2025

- ALLUVIUM
- MOQUI (MEMBER OF MOENKOPI)
- WUPATKI (MEMBER OF MOENKOPI)
- COCONINO SANDSTONE

POTENTIOMETRIC SURFACE

- ALLUVIUM
- MOQUI (MEMBER OF MOENKOPI)
- WUPATKI (MEMBER OF MOENKOPI)
- COCONINO SANDSTONE

HORIZONTAL 120 0 120 240 FT

VERTICAL 40 0 40 80 FT

REV.	Date	Revision	Drawn/Approved
1	3/31/2026	Remedy Selection Report	AV / MH
0	1/31/2023	BAPD Pre-design Report	AV / MH

CLIENT: ARIZONA PUBLIC SERVICE COMPANY

CONSULTANT: wsp

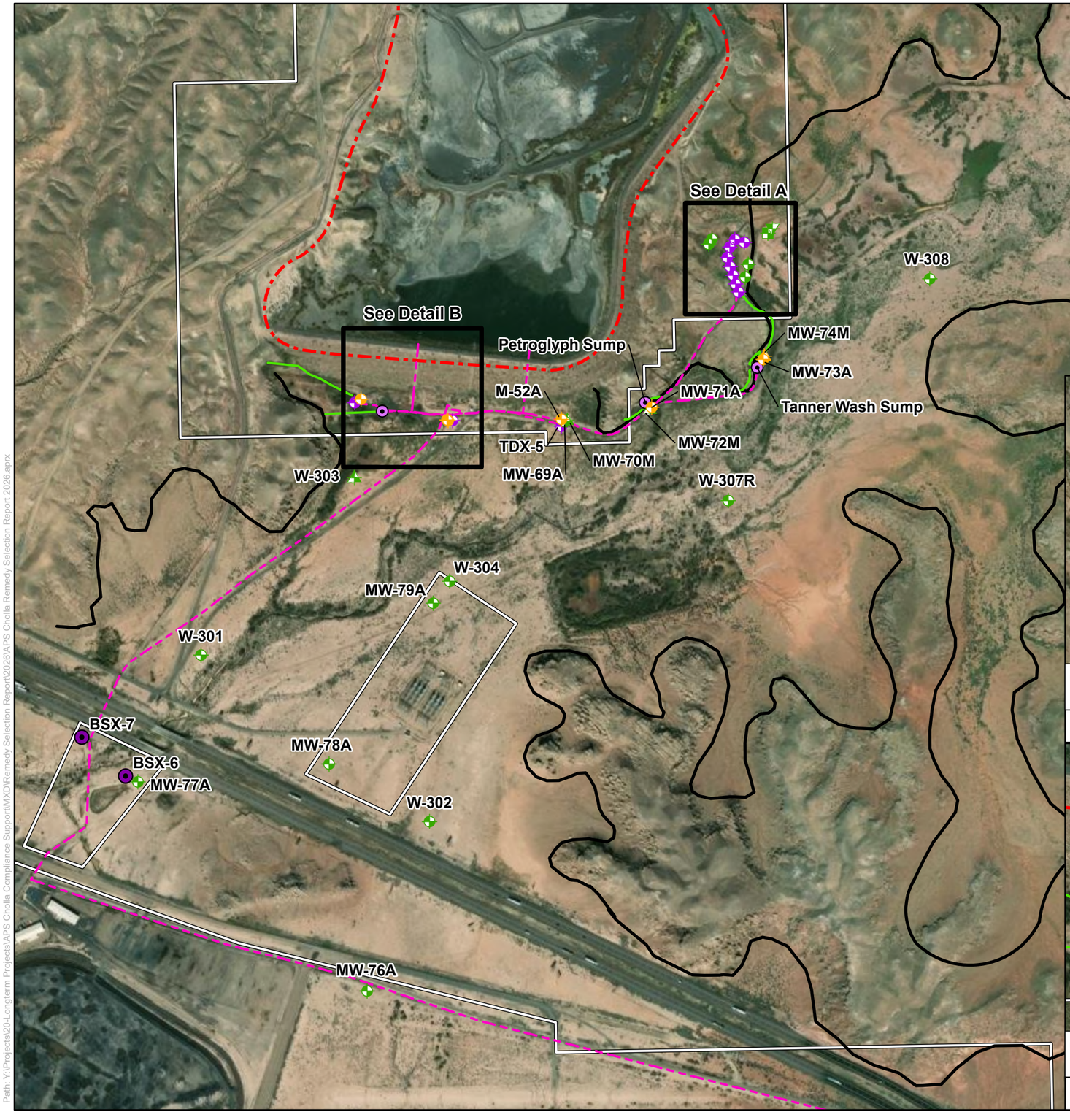
YYYY-MM-DD	2025-07-14
DESIGNED	AV
PREPARED	AV
REVIEWED	RW
APPROVED	MH

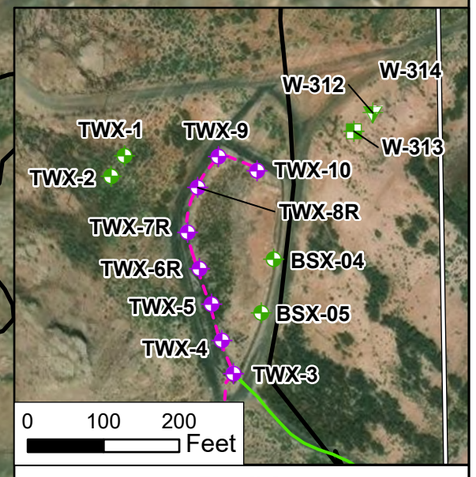
PROJECT: CHOLLA REMEDY SELECTION REPORT FOR THE BAP AND FAP

TITLE: CROSS SECTION I - FAP

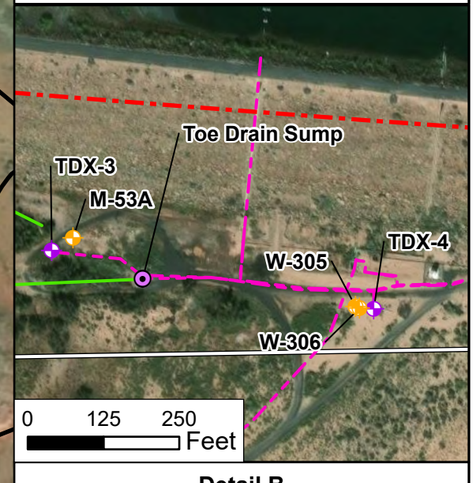
PROJECT NO.	CONTROL	REV	FIGURE No.
US0043274.2036	-	A	14

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Detail A



Detail B

Legend

Monitoring Well Location

- Alluvial Monitoring Well
- C-Aquifer Monitoring Well
- Moenkopi Formation (Moqui Member) Monitoring Well
- Moenkopi Formation (Wupatki Member) Monitoring Well
- CCR Monitoring Well - Downgradient Boundary, Alluvial
- CCR Monitoring Well - Downgradient Boundary, Moenkopi Formation (Moqui Member)

Other Features

- Extraction Well
- Seepage Collection Sump
- Future Extraction Well
- Approximate Extent of CCR Unit
- Estimated Alluvial Extent
- Seepage Intercept Trenches
- Extraction Piping
- APS Land Ownership

Notes and Abbreviations:

MW-304 Well Identification
CCR Coal Combustion Residuals

Seepage Intercept Trench locations based on historical mapping, as-builts drawings and field verification where available. Locations are approximate.

0 300 600
Feet

N

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Cholla Power Plant
Navajo County, Arizona

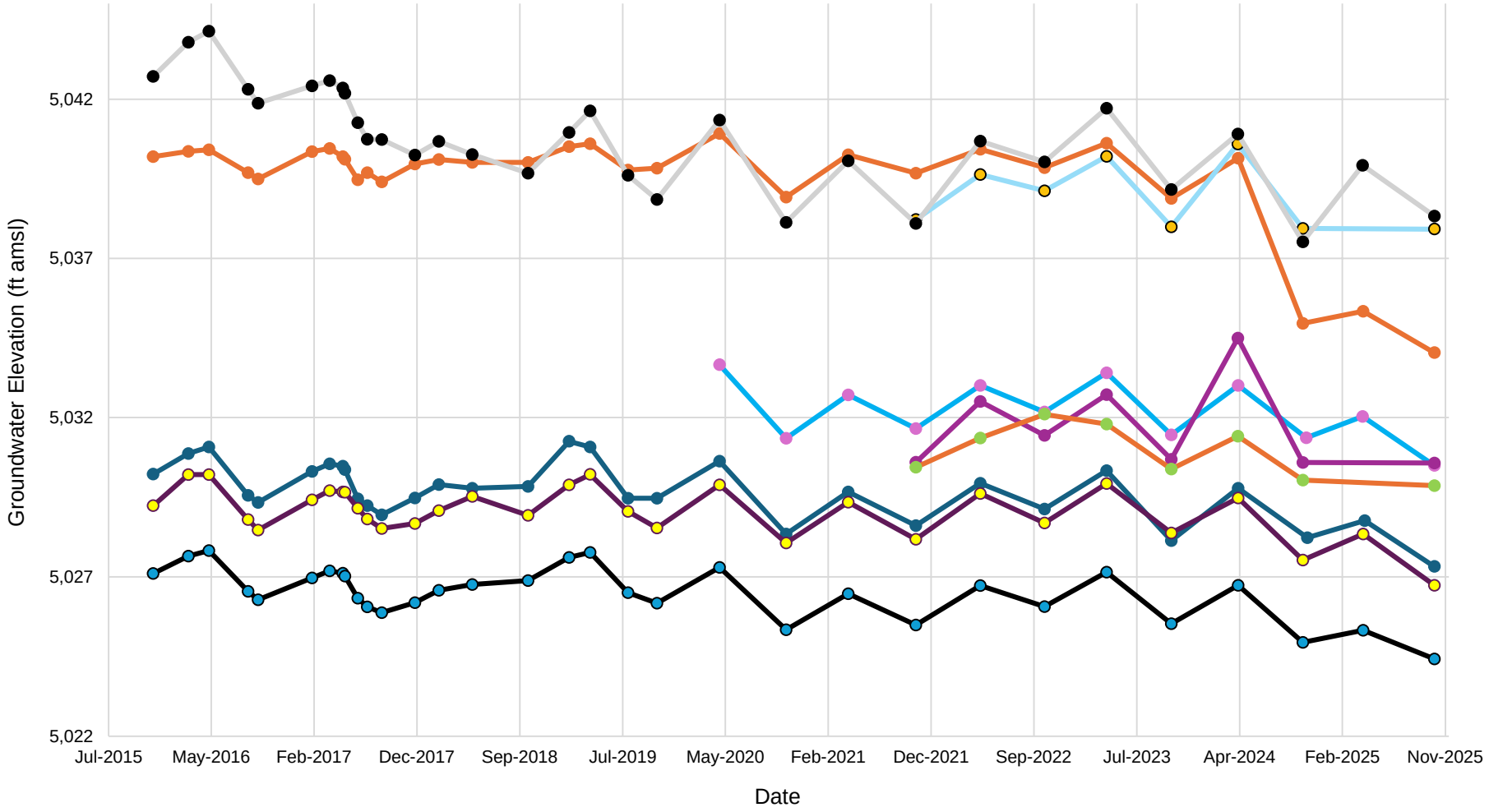
Figure 15

BAP Infrastructure Overview Map

Job No.	US0043274.2036
PM:	MBH
Date:	5/28/2026
Scale:	1"= 600'

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LEGEND

- M-52A
- M-53A
- MW-69A
- MW-71A
- MW-73A
- MW-74M
- W-305
- W-306
- W-314

Notes and Abbreviations

Abbreviations:
amsl - above mean sea level
ft -feet

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Arizona Public Service Company

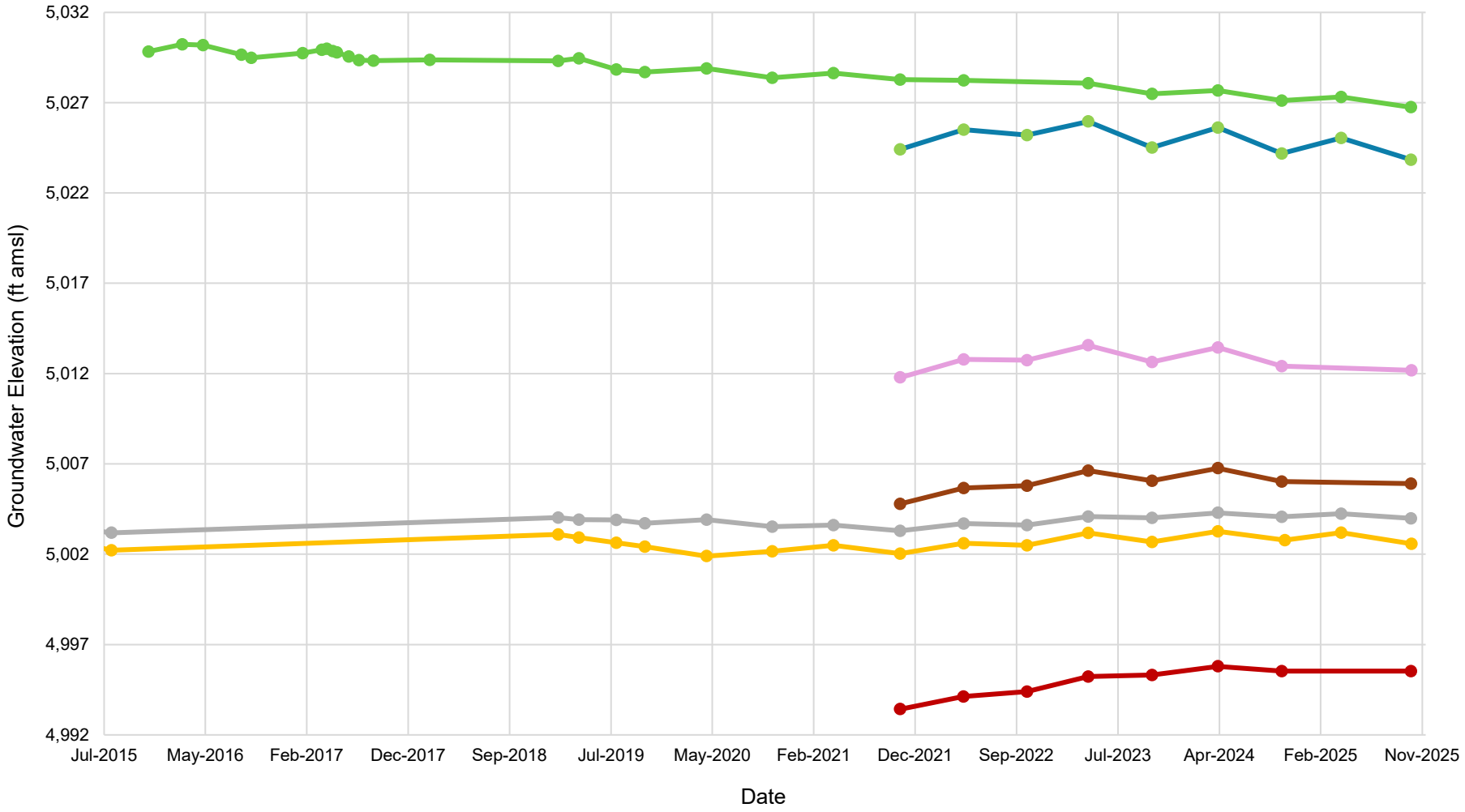
CONSULTANT
wsp

YYYY-MM-DD	2026-05-29
DESIGNED	
PREPARED	JW
REVIEWED	SO
APPROVED	MH

PROJECT
Remedy Selection Report for the BAP and FAP
Cholla Power Plant
Navajo County, Arizona

TITLE
Hydrographs for Select Monitoring Wells Directly Downgradient of BAP Dam

PROJECT NO.	PHASE	REV.	FIGURE
US0043274.2036		A	16



LEGEND

- M-55A
- MW-77A
- MW-78A
- MW-79A
- W-301
- W-302
- W-307R

Notes and Abbreviations

Abbreviations:
amsl - above mean sea level
ft -feet

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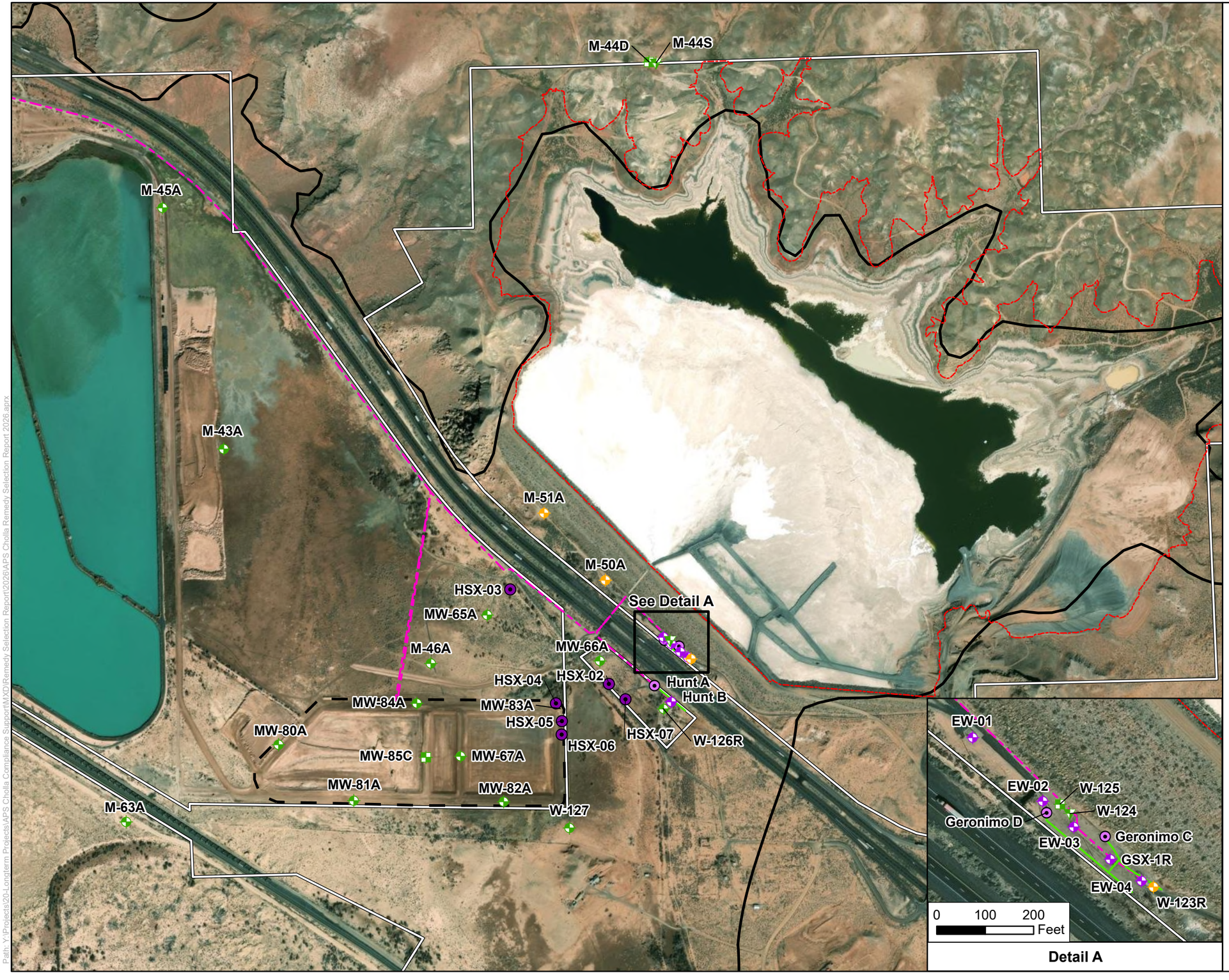
CONSULTANT
wsp

YYYY-MM-DD	2026-05-29
DESIGNED	
PREPARED	JW
REVIEWED	SO
APPROVED	MH

PROJECT
Remedy Selection Report for the BAP and FAP
Cholla Power Plant
Navajo County, Arizona

TITLE
Hydrographs for Select Monitoring Wells Located Further Downgradient of the BAP Dam

PROJECT NO.	PHASE	REV.	FIGURE
US0043274.2036		A	17



Detail A

Legend

CCR Monitoring Well Location

- Alluvial Monitoring Well
- C-Aquifer Monitoring Well
- Moenkopi Formation (Wupatki Member) Monitoring Well
- CCR Monitoring Well - Downgradient Boundary, Alluvial

Other Features

- Extraction Well
- Seepage Collection Sump
- Future Extraction Well
- Approximate Extent of CCR Unit
- APS Land Ownership
- Evaporartion Pond
- Seepage Intercept Trenches
- Extraction Piping
- Estimated Alluvial Extent

Notes and Abbreviations:

MW-123R	Well Identification
CCR	Coal Combustion Residuals

Seepage Intercept Trench locations based on historical mapping, as-builts drawings and field verification where available. Locations are approximate.

0 400 800
Feet

N

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Navajo County, Arizona

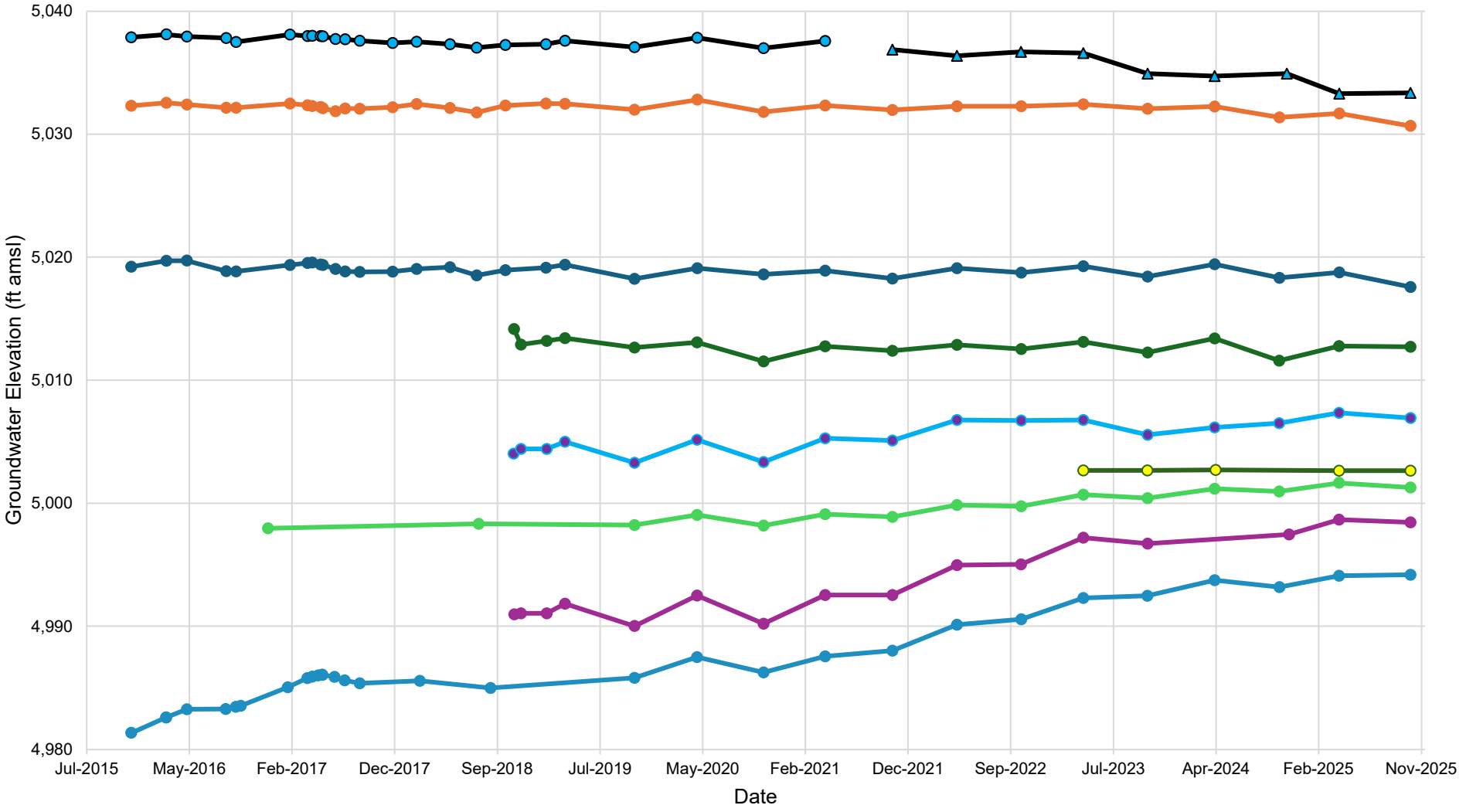
Figure **18**

FAP Infrastructure Overview Map

Job No.	US0043274.2036
PM:	MBH
Date:	5/28/2026
Scale:	1"= 800'

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LEGEND

- M-46A
- M-49A
- M-50A
- M-51A
- M-63A
- MW-65A
- MW-66A
- MW-67A
- *W-123
- W-123R

Notes and Abbreviations

*W-123 abandoned 4/12/2021

Abbreviations:
amsl - above mean sea level
ft -feet

CLIENT
Arizona Public Service Company

CONSULTANT
wsp

YYYY-MM-DD	2026-05- 29
DESIGNED	
PREPARED	JW
REVIEWED	BW
APPROVED	MH

PROJECT
Remedy Selection Report for the BAP and FAP
Cholla Power Plant
Navajo County, Arizona

TITLE
Hydrographs for Select Monitoring Wells Located at the FAP

PROJECT NO.	PHASE	REV.	FIGURE
US0043274.2036		A	19

W-305	
5024.43	
Date	Conc
October 2025	0.00741 J

W-306	
5026.74	
Date	Conc
October 2025	<0.00200 U

M-53A	
5007.28	
Date	Conc
October 2025	0.00494

W-303	
5018.65	
Date	Conc
October 2025	0.0138

W-301	
5002.58	
Date	Conc
October 2025	0.0215

W-314	
5038.33	
Date	Conc
October 2025	0.0301

W-308	
5025.13	
Date	Conc
October 2025	<0.00200 U

W-309	
5026.40	
Date	Conc
October 2025	<0.00200 U

M-55A	
5030.50	
Date	Conc
October 2025	<0.00200 U

BAP Surface	
5107.03**	
Date	Conc
October 2025	<0.0005

MW-74M	
5029.87	
Date	Conc
October 2025	0.0110

MW-73A	
5030.58	
Date	Conc
October 2025	0.00581 J

MW-71A	
5037.92	
Date	Conc
October 2025	0.00859 J

MW-72M	
5032.09	
Date	Conc
October 2025	0.0005

W-307R	
5023.84	
Date	Conc
October 2025	0.0353

W-304	
5011.26	
Date	Conc
October 2025	0.00925

MW-79A	
5012.19	
Date	Conc
October 2025	0.00977 J

MW-70M	
5027.55	
Date	Conc
October 2025	0.0124

M-52A	
5027.33	
Date	Conc
October 2025	0.0311

MW-69A	
5030.50	
Date	Conc
October 2025	0.0131

MW-77A	
4995.53	
Date	Conc
October 2025	0.00482 J

MW-78A	
5005.91	
Date	Conc
October 2025	<0.00200 U

W-302	
5003.99	
Date	Conc
October 2025	0.00694

MW-76A
Dry

BSX-7

BSX-6

See Detail A

5040 5030 5020 5010 5000

0.03 0.02 0.01 0.006

0 300 600 Feet

N

Detail A

0.02 0.03 5030

0 10 20 30 Feet

Legend

Monitoring Well Location

- Alluvial Monitoring Well
- Moenkopi Formation (Moqui Member) Monitoring Well
- CCR Monitoring Well - Downgradient Boundary, Alluvial
- CCR Monitoring Well - Downgradient Boundary, Moenkopi Formation (Moqui Member)
- Future Extraction Well
- Extent of Alluvium (Not Fully Defined) provided by Montgomery and Associates
- APS Land Ownership

Alluvial Aquifer Potentiometric Surface (October 2025)

- Groundwater Elevation (Dashed Where Inferred)

Cobalt Concentration in Groundwater (October 2025)

- >0.006 mg/L
- >0.01 mg/L
- >0.02 mg/L
- >0.03 mg/L
- GWPS (0.0060 mg/L; Dashed Where Inferred)

Notes and Abbreviations:

W-304	Well Identification
5011.26	Alluvial/ Moenkopi Moqui Groundwater Elevation (ft amsl) October 2025
5170.03	CCR Surface Water Elevation October 2025
**	Pond elevations provided by Montgomery & Associates
0.00925	Cobalt concentration (mg/L)
J	Result is estimated quantity
U	The analyte was analyzed for, but was not detected above the level of the reported sample quantitation limit.
<	Less than reporting limit (or the method detection limit for results with raised RLs that exceeded the BTV/GWPS)
ft amsl	Feet above mean sea level
mg/L	Milligrams per liter
CCR	Coal Combustion Residuals
RL	Reporting Limit
BTV	Background Threshold Value
GWPS	Groundwater Protection Standard

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Navajo County, Arizona

Figure 20

Cobalt Iso-Concentration Map for the Bottom Ash Pond - Semi Annual Event 2 2025

Job No.	US0043274.2036
PM:	MBH
Date:	5/28/2026
Scale:	1"= 600'

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M-44D	
5003.18	
Date	Conc
October 2025	0.0200

M-45A	
4993.45	
Date	Conc
October 2025	<0.0020 U

M-51A	
5030.67	
Date	Conc
October 2025	0.0248

MW-65A	
5012.71	
Date	Conc
October 2025	0.0084 J

FAP Surface	
5077.45**	
Date	Conc
October 2025	0.919

M-43A	
4995.33	
Date	Conc
October 2025	<0.0020 U

M-46A	
5001.29	
Date	Conc
October 2025	0.0103 J

M-50A	
5017.58	
Date	Conc
October 2025	0.00404 J

MW-84A	
4999.38	
Date	Conc
April 2025	0.013

W-124
Dry

W-125	
5002.09	
Date	Conc
October 2025	0.0279

MW-80A	
4997.44	
Date	Conc
April 2025	0.0025

W-123R	
5033.35	
Date	Conc
October 2025	0.00574 J

M-63A	
4994.19	
Date	Conc
October 2025	0.00230

MW-66A	
5006.93	
Date	Conc
October 2025	0.0045 J

MW-81A	
4997.33	
Date	Conc
April 2025	<0.0010

MW-85C	
4998.39	
Date	Conc
April 2025	0.040

MW-67A	
5001.12	
Date	Conc
October 2025	0.00582

MW-82A	
4997.69	
Date	Conc
April 2025	NS

W-127
Dry

MW-83A	
4999.91	
Date	Conc
April 2025	0.0032

W-126R	
5022.28	
Date	Conc
October 2025	0.000698 J

0.01

HSX-03

HSX-02

HSX-04

HSX-07

HSX-05

HSX-06

5010

5020

5030

Legend

Monitoring Well Location

- Alluvial Monitoring Well
- C-Aquifer Monitoring Well
- Moenkopi Formation (Wupatki Member) Monitoring Well
- CCR Monitoring Well - Downgradient Boundary, Alluvial
- Future Extraction Well
- Extent of Alluvium (Not Fully Defined) provided by Montgomery and Associates
- Approximate Extent of CCR Unit
- APS Land Ownership

Alluvial Aquifer Potentiometric Surface (October 2025)

- Groundwater Elevation (Dashed Where Inferred)

Arsenic Concentration in Groundwater (October 2025)

- >0.010 mg/L
- GWPS (0.010 mg/L; Dashed Where Inferred)

Notes and Abbreviations:

M-51A	Well Identification
5030.67	Alluvial/ Moenkopi Moqui Groundwater Elevation (ft amsl) October 2025
5003.18	C-Aquifer/Moenkopi Wupatki Groundwater Elevation (ft amsl) October 2025
5077.45	CCR Surface Water Elevation October 2025
**	Pond elevation provided by APS in October 2025
0.0248	Arsenic concentration (mg/L)
J	Result is estimated quantity
U	The analyte was analyzed for, but was not detected above the level of the reported sample quantitation limit.
<	Less than reporting limit (or the method detection limit for results with raised RLs that exceeded the BTV/GWPS)
NS	Not Sampled due to inadequate water amount
ft amsl	Feet above mean sea level
mg/L	Milligrams per liter
CCR	Coal Combustion Residuals
RL	Reporting Limit
BTV	Background Threshold Value
GWPS	Groundwater Protection Standard

0 400 800 Feet

N

Arizona Public Service
Cholla Power Plant
Navajo County, Arizona

Figure 21

Arsenic Iso-Concentration Map for the Fly Ash Pond Semi Annual Event 2 2025

Job No.	US0043274.2036
PM:	MBH
Date:	5/28/2026
Scale:	1"= 800'

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Path: Y:\Projects\20-Longterm Projects\APS Cholla Compliance Support\MXD\Remedy Selection Report\2026\APS Cholla Remedy Selection Report 2026.aprx

M-44D	
5003.18	
Date	Conc
October 2025	<0.750 U

M-45A	
4993.45	
Date	Conc
October 2025	0.576 J

M-51A	
5030.67	
Date	Conc
October 2025	5.25

MW-65A	
5012.71	
Date	Conc
October 2025	3.32

M-43A	
4995.33	
Date	Conc
October 2025	<0.380

M-46A	
5001.29	
Date	Conc
October 2025	<1.50 U

MW-84A	
4999.38	
Date	Conc
April 2025	<0.761

MW-80A	
4997.44	
Date	Conc
April 2025	<0.75

M-63A	
4994.19	
Date	Conc
October 2025	0.187

FAP Surface	
5077.45**	
Date	Conc
October 2025	64.0 J

M-50A	
5017.58	
Date	Conc
October 2025	2.14

W-124
Dry

W-125	
5002.09	
Date	Conc
October 2025	<0.75 U

W-123R	
5033.35	
Date	Conc
October 2025	5.76

MW-66A	
5006.93	
Date	Conc
October 2025	<1.50 U

MW-81A	
4997.33	
Date	Conc
April 2025	<0.761

MW-85C	
4998.39	
Date	Conc
April 2025	<0.761

MW-67A	
5001.12	
Date	Conc
October 2025	0.591 J

MW-82A	
4997.69	
Date	Conc
April 2025	NS

W-127
Dry

MW-83A	
4999.91	
Date	Conc
April 2025	<0.761

W-126R	
5022.28	
Date	Conc
October 2025	5.57

HSX-03
HSX-02
HSX-04
HSX-07
HSX-05
HSX-06

5030
5020
5010
4

Legend

Monitoring Well Location

- Alluvial Monitoring Well
- C-Aquifer Monitoring Well
- Moenkopi Formation (Wupatki Member) Monitoring Well
- CCR Monitoring Well - Downgradient Boundary, Alluvial
- Future Extraction Well
- Extent of Alluvium (Not Fully Defined) provided by Montgomery and Associates
- Approximate Extent of CCR Unit
- APS Land Ownership

Alluvial Aquifer Potentiometric Surface (October 2025)

- Groundwater Elevation (Dashed Where Inferred)

Fluoride Concentration in Alluvial Aquifer (October 2025)

- > 4.0 mg/L
- GWPS (4.0 mg/L; Dashed Where Inferred)

Notes and Abbreviations:

M-51A	Well Identification
5030.67	Alluvial/ Moenkopi Moqui Groundwater Elevation (ft amsl) October 2025
5003.18	C-Aquifer/Moenkopi Wupatki Groundwater Elevation (ft amsl) October 2025
5077.45	CCR Surface Water Elevation October 2025
**	Pond elevation provided by APS in October 2025
5.25	Fluoride concentration (mg/L)
J	Result is estimated quantity
U	The analyte was analyzed for, but was not detected above the level of the reported sample quantitation limit.
<	Less than reporting limit (or the method detection limit for results with raised RLs that exceeded the BTV/GWPS)
NS	Not Sampled due to inadequate water amount
ft amsl	Feet above mean sea level
mg/L	Milligrams per liter
CCR	Coal Combustion Residuals
RL	Reporting Limit
BTV	Background Threshold Value
GWPS	Groundwater Protection Standard

0 400 800
Feet

N

Arizona Public Service
Cholla Power Plant
Navajo County, Arizona

Figure 22

Fluoride Iso-Concentration Map for the Fly Ash Pond - Semi Annual Event 2 2025

Job No.	US0043274.2036
PM:	MBH
Date:	5/28/2026
Scale:	1"= 800'

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M-44D	
5003.18	
Date	Conc
October 2025	0.0434

M-51A	
5030.67	
Date	Conc
October 2025	0.457

M-45A	
4993.45	
Date	Conc
October 2025	0.218

MW-65A	
5012.71	
Date	Conc
October 2025	0.991

M-43A	
4995.33	
Date	Conc
October 2025	0.145

M-46A	
5001.29	
Date	Conc
October 2025	0.313

MW-84A	
4999.38	
Date	Conc
April 2025	0.34

MW-80A	
4997.44	
Date	Conc
April 2025	0.093

M-63A	
4994.19	
Date	Conc
October 2025	0.097

MW-81A	
4997.33	
Date	Conc
April 2025	0.25

MW-85C	
4998.39	
Date	Conc
April 2025	0.032

MW-67A	
5001.12	
Date	Conc
October 2025	0.154

MW-82A	
4997.69	
Date	Conc
April 2025	NS

W-127
Dry

MW-83A	
4999.91	
Date	Conc
April 2025	0.247

FAP Surface	
5077.45**	
Date	Conc
October 2025	14.4

M-50A	
5017.58	
Date	Conc
October 2025	0.448

W-124
Dry

W-125	
5002.09	
Date	Conc
October 2025	0.0302

W-123R	
5033.35	
Date	Conc
October 2025	0.743

MW-66A	
5006.93	
Date	Conc
October 2025	0.523

W-126R	
5022.28	
Date	Conc
October 2025	0.642

0.418
HSX-03
0.50
HSX-02
HSX-04
HSX-07
HSX-05
0.418
HSX-06
0.50
5010
5020
5030

Legend

Monitoring Well Location

- Alluvial Monitoring Well
- C-Aquifer Monitoring Well
- Moenkopi Formation (Wupatki Member) Monitoring Well
- CCR Monitoring Well - Downgradient Boundary, Alluvial
- Future Extraction Well
- Extent of Alluvium (Not Fully Defined) provided by Montgomery and Associates
- Approximate Extent of CCR Unit
- APS Land Ownership

Alluvial Aquifer Potentiometric Surface (October 2025)

- Groundwater Elevation (Dashed Where Inferred)

Lithium Concentration in Alluvial Aquifer (October 2025)

- > 0.418 mg/L
- > 0.50 mg/L
- GWPS (0.418 mg/L; Dashed Where Inferred)

Notes and Abbreviations:

M-51A	Well Identification
5030.67	Alluvial/ Moenkopi Moqui Groundwater Elevation (ft amsl) October 2025
5003.18	C-Aquifer/Moenkopi Wupatki Groundwater Elevation (ft amsl) October 2025
5077.45	CCR Surface Water Elevation October 2025
**	Pond elevation provided by APS in October 2025
0.457	Lithium concentration (mg/L)
NS	Not Sampled due to inadequate water amount
ft amsl	Feet above mean sea level
mg/L	Milligrams per liter
CCR	Coal Combustion Residuals
GWPS	Groundwater Protection Standard

0 400 800 Feet

N

Arizona Public Service
Cholla Power Plant
Navajo County, Arizona

Figure 23

Lithium Iso-Concentration Map for the Fly Ash Pond - Semi Annual Event 2 2025

Job No.	US0043274.2036
PM:	MBH
Date:	5/28/2026
Scale:	1"= 800'

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M-44D	
5003.18	
Date	Conc
October 2025	0.0500

M-51A	
5030.67	
Date	Conc
October 2025	0.135

M-45A	
4993.45	
Date	Conc
October 2025	<0.0050 U

MW-65A	
5012.71	
Date	Conc
October 2025	0.270

M-43A	
4995.33	
Date	Conc
October 2025	<0.025 U

M-46A	
5001.29	
Date	Conc
October 2025	<0.050 U

MW-84A	
4999.38	
Date	Conc
April 2025	0.0054

MW-80A	
4997.44	
Date	Conc
April 2025	0.0060

M-63A	
4994.19	
Date	Conc
October 2025	<0.0050 U

FAP Surface	
5077.45**	
Date	Conc
October 2025	0.709

M-50A	
5017.58	
Date	Conc
October 2025	<0.0500 U

W-124	
Dry	

W-125	
5002.09	
Date	Conc
October 2025	<0.0050 U

W-123R	
5033.35	
Date	Conc
October 2025	<0.0500 U

MW-66A	
5006.93	
Date	Conc
October 2025	<0.0050 U

MW-81A	
4997.33	
Date	Conc
April 2025	<0.0050

MW-85C	
4998.39	
Date	Conc
April 2025	<0.0050

MW-67A	
5001.12	
Date	Conc
October 2025	<0.00500 U

MW-82A	
4997.69	
Date	Conc
April 2025	NS

W-127	
Dry	

MW-83A	
4999.91	
Date	Conc
April 2025	<0.0050

W-126R	
5022.28	
Date	Conc
October 2025	0.228

HSX-02
HSX-03
HSX-04
HSX-05
HSX-06
HSX-07

0.1
0.1
0.1

5030
5020
5010

Legend

Monitoring Well Location

- Alluvial Monitoring Well
- C-Aquifer Monitoring Well
- Moenkopi Formation (Wupatki Member) Monitoring Well
- CCR Monitoring Well - Downgradient Boundary, Alluvial
- Future Extraction Well
- Extent of Alluvium (Not Fully Defined) provided by Montgomery and Associates
- Approximate Extent of CCR Unit
- APS Land Ownership

Alluvial Aquifer Potentiometric Surface (October 2025)

- Groundwater Elevation (Dashed Where Inferred)

Molybdenum Concentration in Alluvial Aquifer (October 2025)

- > 0.10 mg/L
- GWPS (0.10 mg/L; Dashed Where Inferred)

Notes and Abbreviations:

M-51A	Well Identification
5030.67	Alluvial/ Moenkopi Moqui Groundwater Elevation (ft amsl) October 2025
5003.18	C-Aquifer/Moenkopi Wupatki Groundwater Elevation (ft amsl) October 2025
5077.45	CCR Surface Water Elevation October 2025
**	Pond elevation provided by APS in October 2025
0.135	Molybdenum concentration (mg/L)
U	The analyte was analyzed for, but was not detected above the level of the reported sample quantitation limit.
<	Less than reporting limit (or the method detection limit for results with raised RLs that exceeded the BTV/GWPS)
NS	Not Sampled due to inadequate water amount
ft amsl	Feet above mean sea level
mg/L	Milligrams per liter
CCR	Coal Combustion Residuals
RL	Reporting Limit
BTV	Background Threshold Value
GWPS	Groundwater Protection Standard

0 400 800 Feet

N

Arizona Public Service
Cholla Power Plant
Navajo County, Arizona

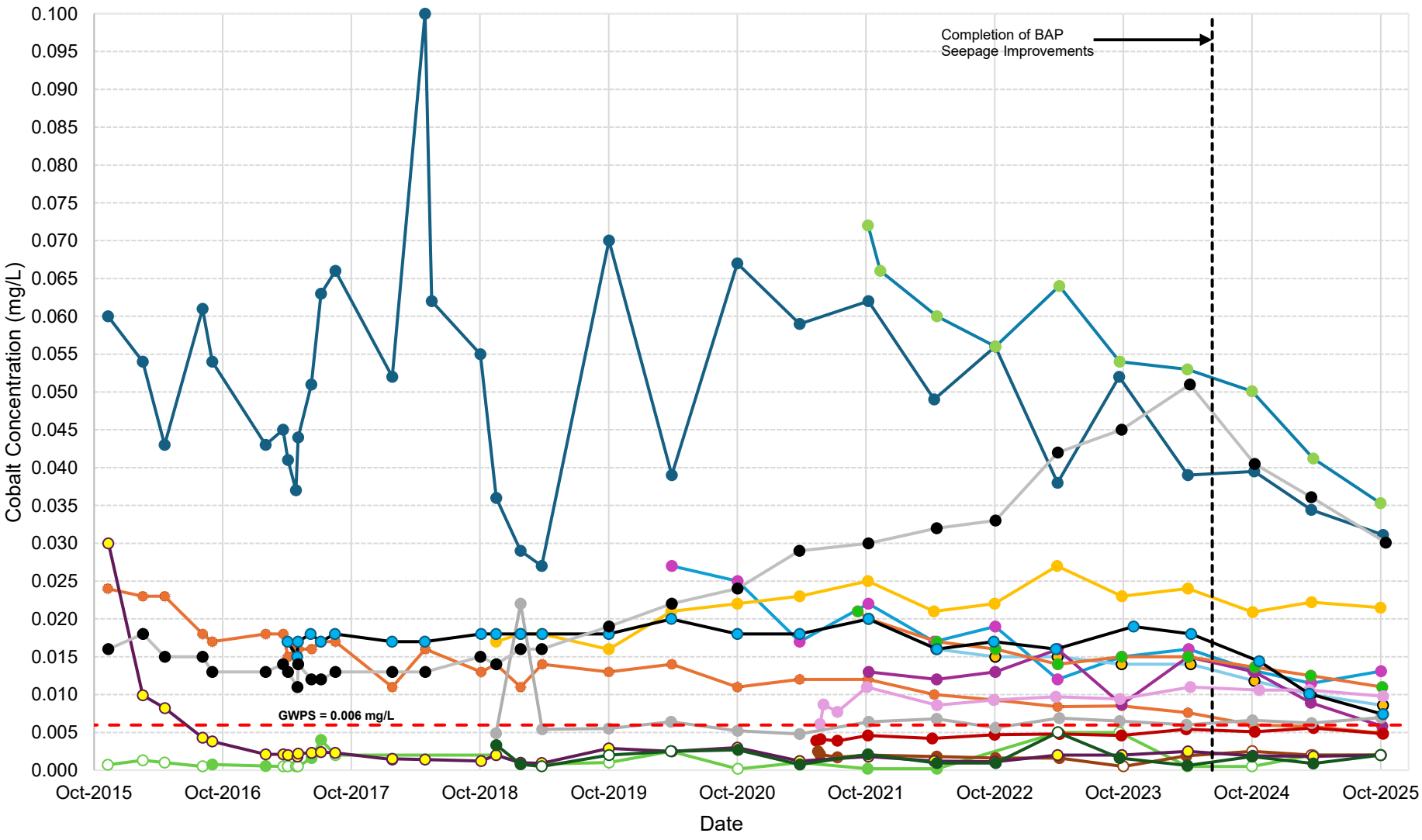
Figure 24

Molybdenum Iso-Concentration Map for the Fly Ash Pond - Semi Annual Event 2 2025

Job No.	US0043274.2036
PM:	MBH
Date:	5/28/2026
Scale:	1"= 800'

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LEGEND

M-52A, M-53A, M-55A, MW-69A, MW-71A, MW-73A, MW-74M, MW-77A, MW-78A, MW-79A, W-301, W-302, W-305, W-306, W-307R, W-308, W-314

Notes and Abbreviations

Hollow data points indicate that the analyte not detected above the level of the reported sample quantitation limit.

Abbreviations:
GWPS - Groundwater Protection Standard
mg/L - milligrams per liter

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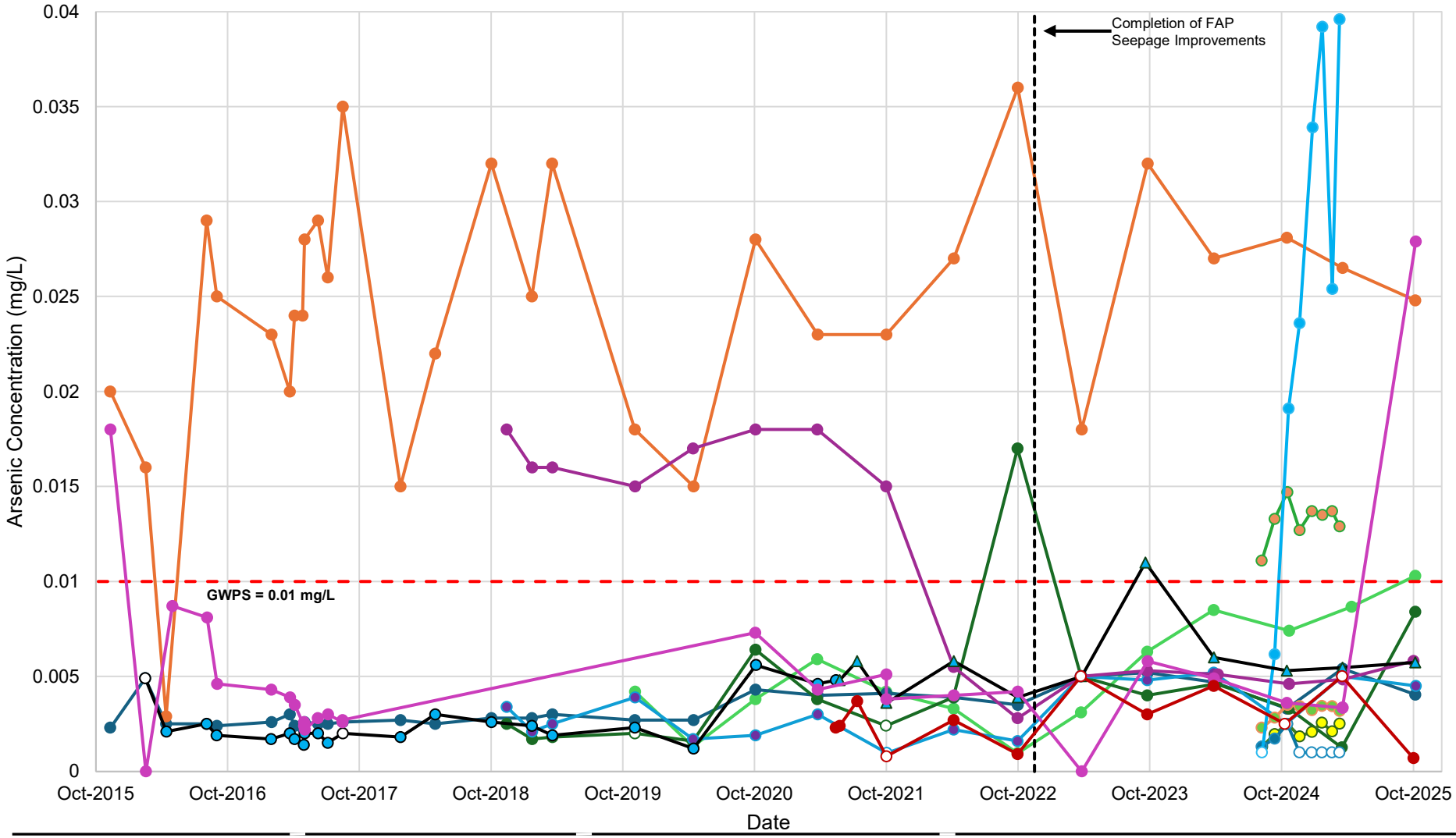
CONSULTANT
wsp

YYYY-MM-DD	2026-05-29
DESIGNED	
PREPARED	ER
REVIEWED	BW
APPROVED	MH

PROJECT
Remedy Selection Report for the BAP and FAP
Cholla Power Plant
Navajo County, Arizona

TITLE
Cobalt Concentration Timeseries Plot for Wells Located Downgradient of the BAP Dam
Navajo County, Arizona

PROJECT NO.	PHASE	REV.	FIGURE
US0043274.2036		A	25



LEGEND

- MW-46A
- M-50A
- M-51A
- MW-65A
- MW-66A
- MW-67A
- MW-80A
- MW-81A
- MW-83A
- MW-84A
- MW-85C
- W-123
- W-123R
- W-125
- W-126R

Notes and Abbreviations

Hollow data points indicate that the analyte not detected above the level of the reported sample quantitation limit.

W-123R was installed following the abandonment of W-123 in April 2021.

Abbreviations:
GWPS - Groundwater Protection Standard
mg/L - milligrams per liter

CLIENT
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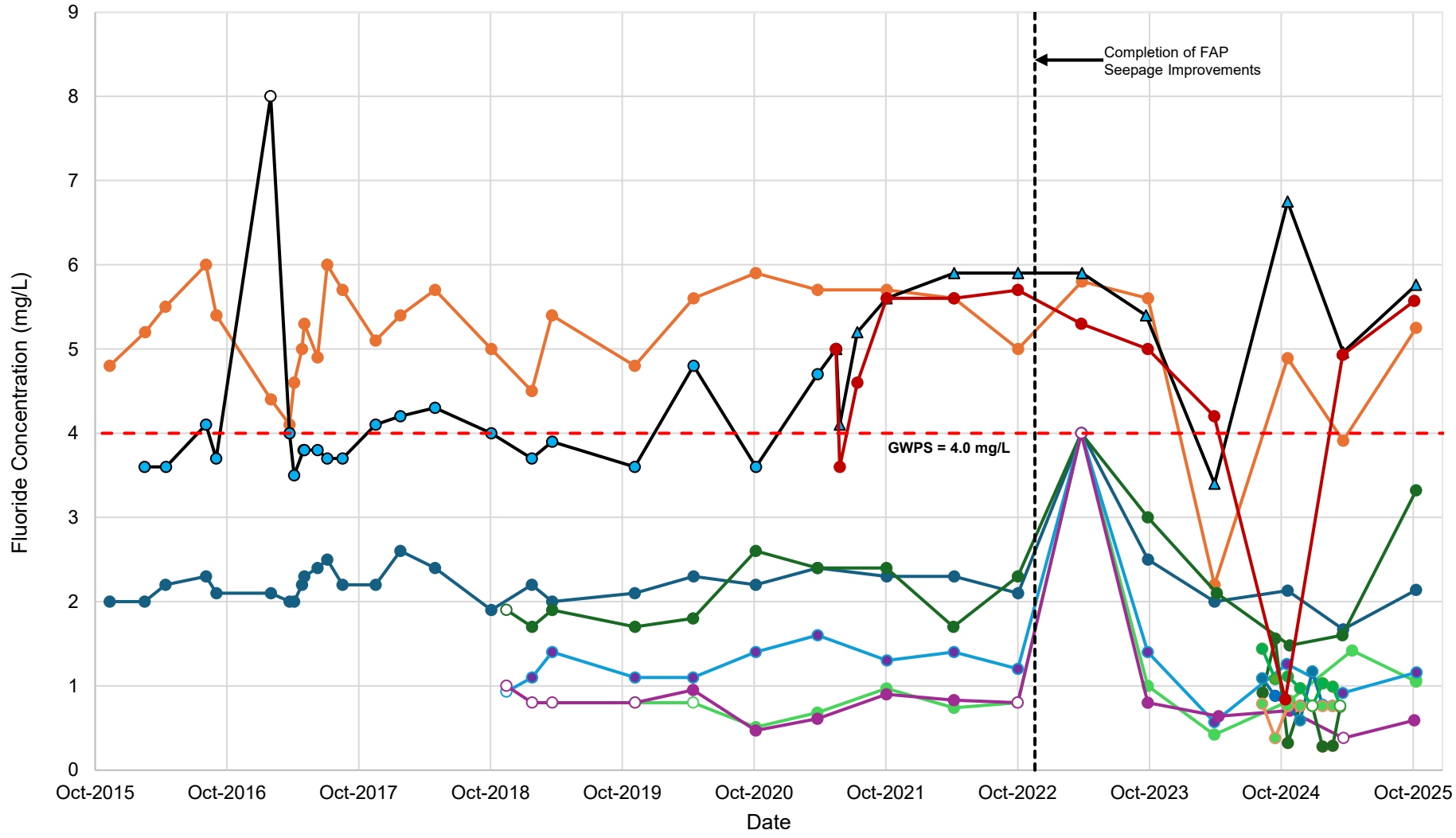
CONSULTANT
wsp

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PREPARED	ER
REVIEWED	BW
APPROVED	MH

PROJECT
Remedy Selection Report for the BAP and FAP
Cholla Power Plant
Navajo County, Arizona

TITLE
Arsenic Concentration Timeseries Plot for Wells Located Downgradient of the FAP

PROJECT NO.	PHASE	REV.	FIGURE
US0043274.2036		A	26



LEGEND

- M-46A
- M-50A
- M-51A
- MW-65A
- MW-66A
- MW-67A
- MW-80A
- MW-81A
- MW-83A
- MW-84A
- W-123
- W-123R
- W-126R

Notes and Abbreviations

Hollow data points indicate that the analyte not detected above the level of the reported sample quantitation limit.

W-123R was installed following the abandonment of W-123 in April 2021.

Abbreviations:
GWPS - Groundwater Protection Standard
mg/L - milligrams per liter

CLIENT
Arizona Public Service Company

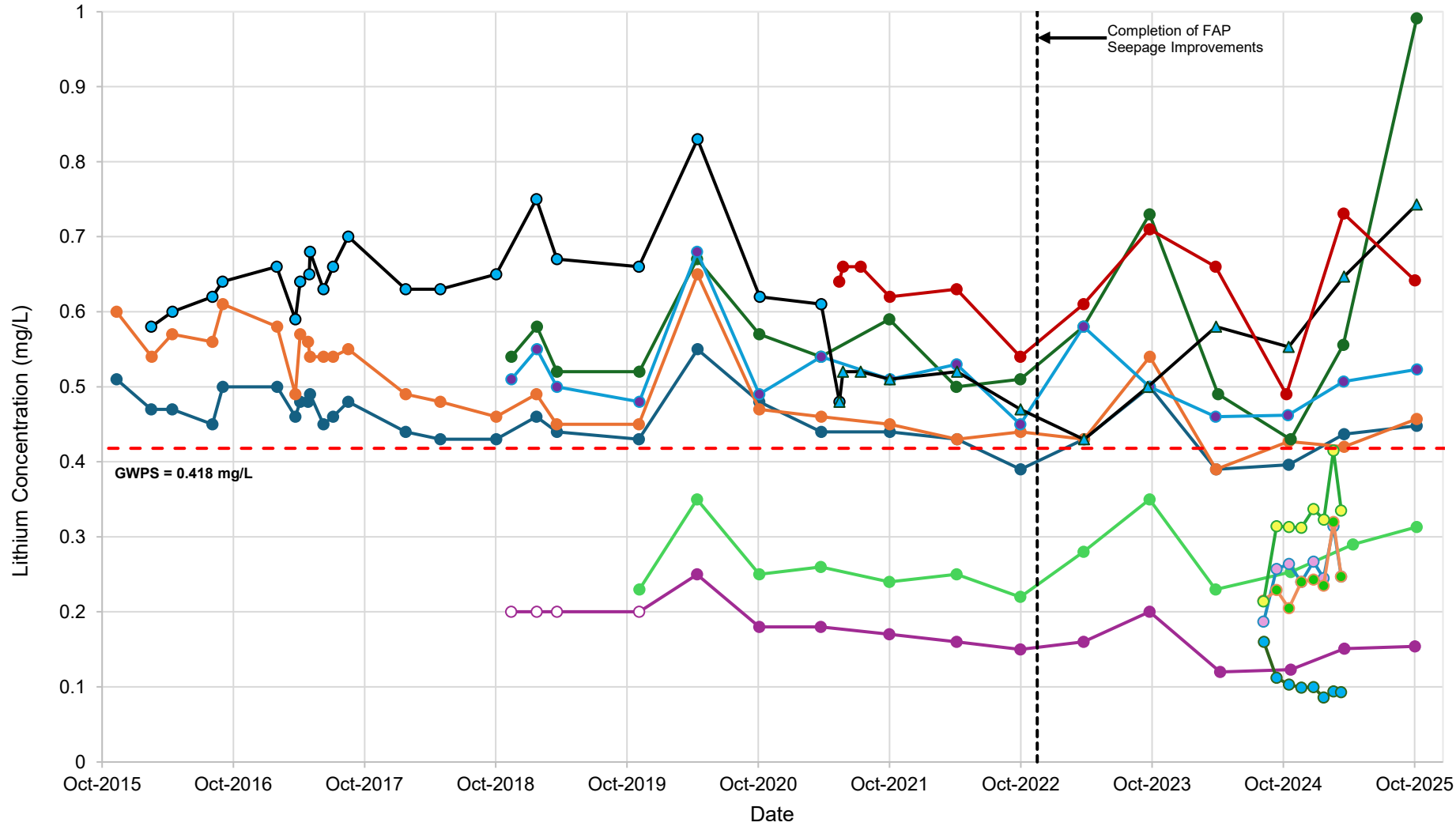
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PREPARED	ER
REVIEWED	BW
APPROVED	MH

PROJECT
Remedy Selection Report for the BAP and FAP
Cholla Power Plant
Navajo County, Arizona

TITLE
Fluoride Concentration Timeseries Plot for Wells Located Downgradient of the FAP

PROJECT NO.	PHASE	REV.	FIGURE
US0043274.2036		A	27



LEGEND

- MW-46A
- M-50A
- M-51A
- MW-65A
- MW-66A
- MW-67A
- MW-80A
- MW-81A
- MW-83A
- MW-84A
- W-123
- W-123R
- W-126R

Notes and Abbreviations

Hollow data points indicate that the analyte not detected above the level of the reported sample quantitation limit.

W-123R was installed following the abandonment of W-123 in April 2021.

Abbreviations:
GWPS - Groundwater Protection Standard
mg/L - milligrams per liter

CLIENT
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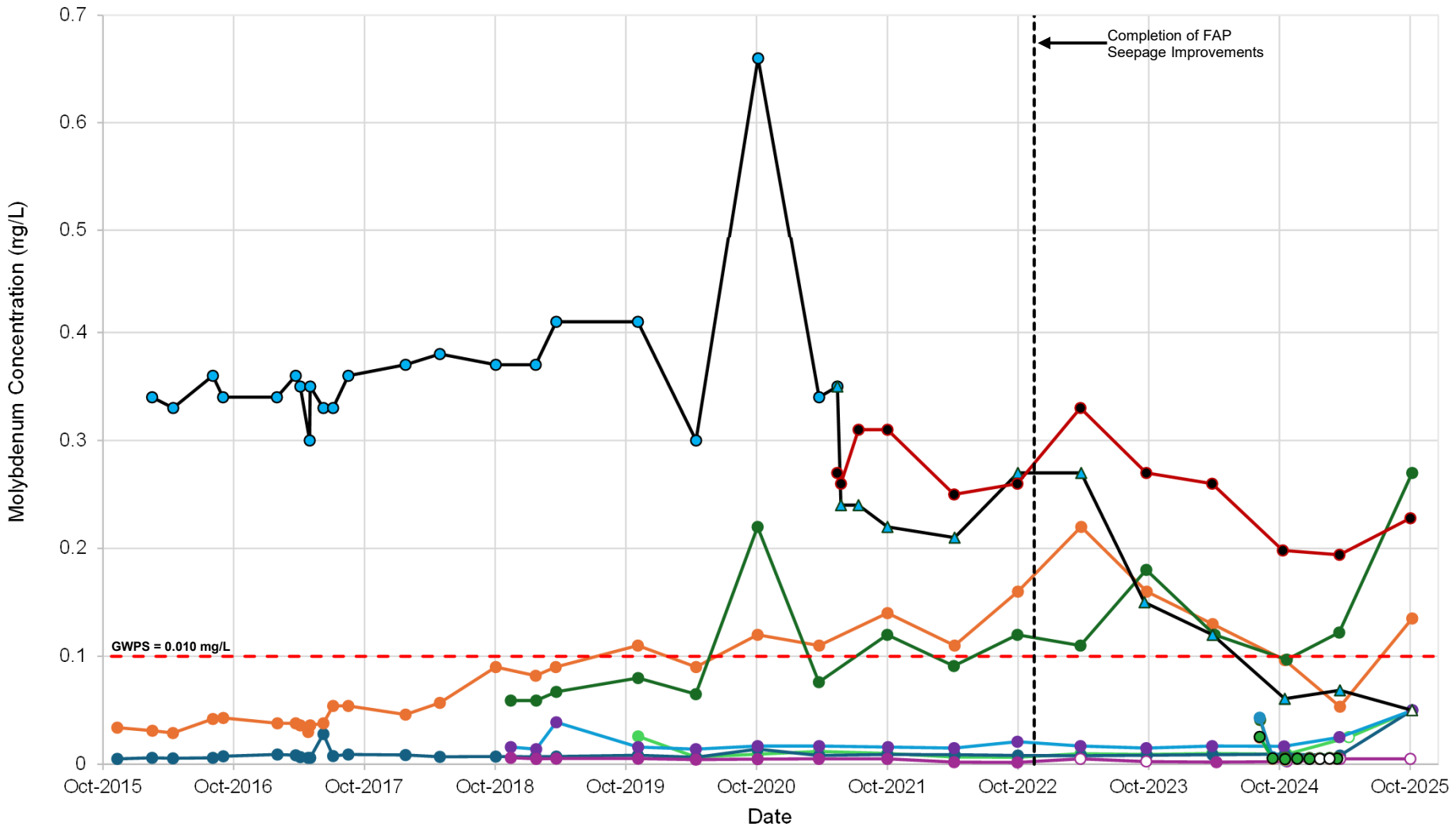
CONSULTANT
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YYYY-MM-DD	2026-05-29
DESIGNED	
PREPARED	ER
REVIEWED	BW
APPROVED	MH

PROJECT
Remedy Selection Report for the BAP and FAP
Cholla Power Plant
Navajo County, Arizona

TITLE
Lithium Concentration Timeseries Plot for Wells Located Downgradient of the FAP

PROJECT NO.	PHASE	REV.	FIGURE
US0043274.2036		A	28



LEGEND

- M-46A
- M-50A
- M-51A
- MW-65A
- MW-66A
- MW-67A
- MW-80A
- MW-81A
- MW-83A
- MW-84A
- W-123
- W-123R
- W-126R

Notes and Abbreviations

Hollow data points indicate that the analyte not detected above the level of the reported sample quantitation limit.

W-123R was installed following the abandonment of W-123 in April 2021.

Abbreviations:
GWPS - Groundwater Protection

CLIENT
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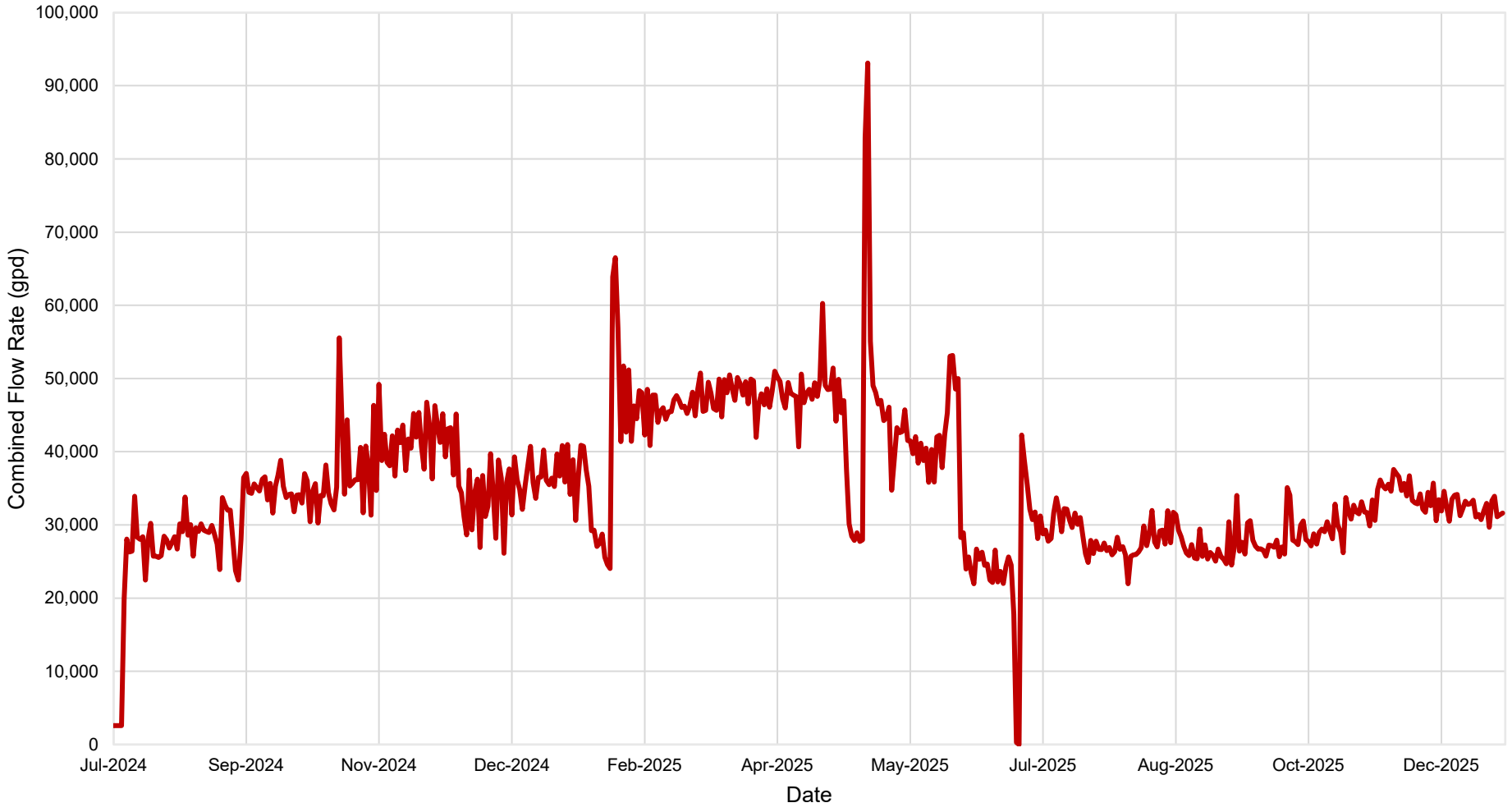
CONSULTANT
wsp

YYYY-MM-DD	2026-05-29
DESIGNED	
PREPARED	ER
REVIEWED	BW
APPROVED	MH

PROJECT
Remedy Selection Report for the BAP and FAP
Cholla Power Plant
Navajo County, Arizona

TITLE
Molybdenum Concentration Timeseries Plot for Wells Located Downgradient of the FAP

PROJECT NO.	PHASE	REV.	FIGURE
US0043274.2036		A	29



LEGEND

Combined Flow Rate (gpd)

Notes and Abbreviations

-Daily flow rates are obtained from remote telemetry units installed on each seepage extraction system.
-Data displayed is from the commisioning of the BAP system improvements, July 2024.

Abbreviations:
BAP = Bottom Ash Pond

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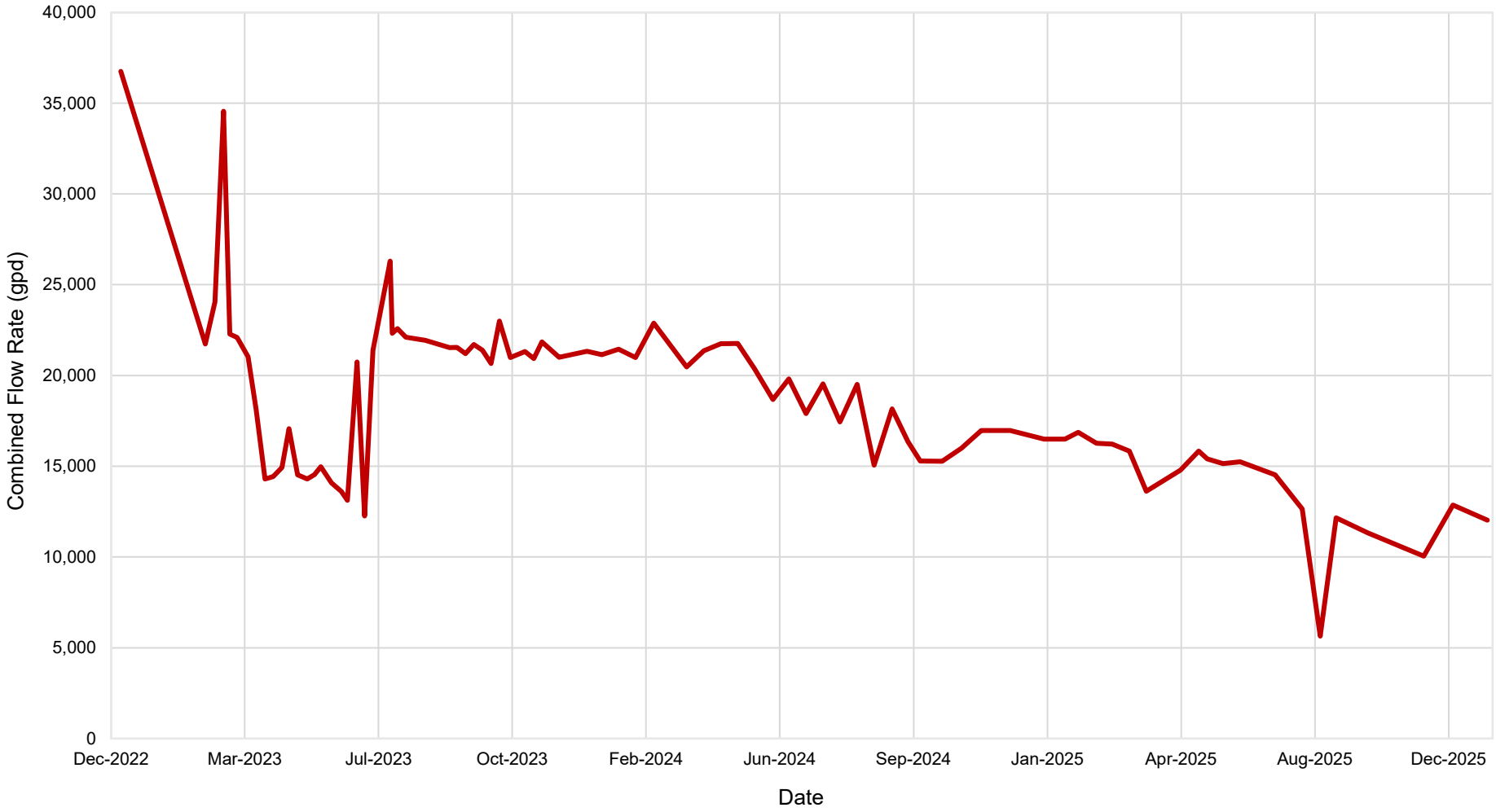
CONSULTANT

YYYY-MM-DD	2026-05-29
DESIGNED	
PREPARED	JW
REVIEWED	BW
APPROVED	MH

PROJECT
Remedy Selection Report for the BAP and FAP
Cholla Power Plant
Navajo County, Arizona

TITLE
Combined BAP Seepage Intercept System Flow Rate

PROJECT NO.	PHASE	REV.	FIGURE
US0043274.2036		A	30



LEGEND

Combined Flow Rate (gpd)

Notes and Abbreviations

-Daily flow rates are calculated from the previous month's totalizer readings, monthly timeframes can vary due to difference in field measurement dates.
-Data displayed is from the commisioning of the FAP system improvements, DEC 2022.

Abbreviations:
FAP = Fly Ash Pond
gpd = gallons per day

CLIENT
Arizona Public Service Company

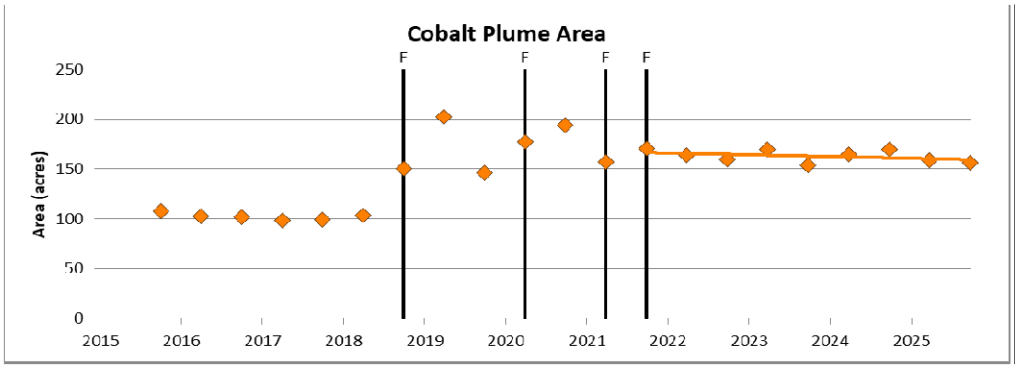
CONSULTANT
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YYYY-MM-DD	2026-05-29
DESIGNED	
PREPARED	JW
REVIEWED	BW
APPROVED	MH

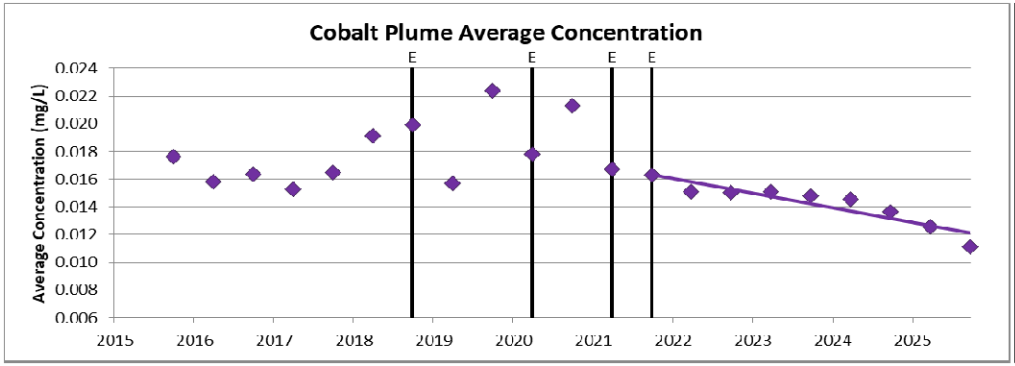
PROJECT
Remedy Selection Report for the BAP and FAP
Cholla Power Plant
Navajo County, Arizona

TITLE
Combined FAP Seepage Intercept System Flow Rate

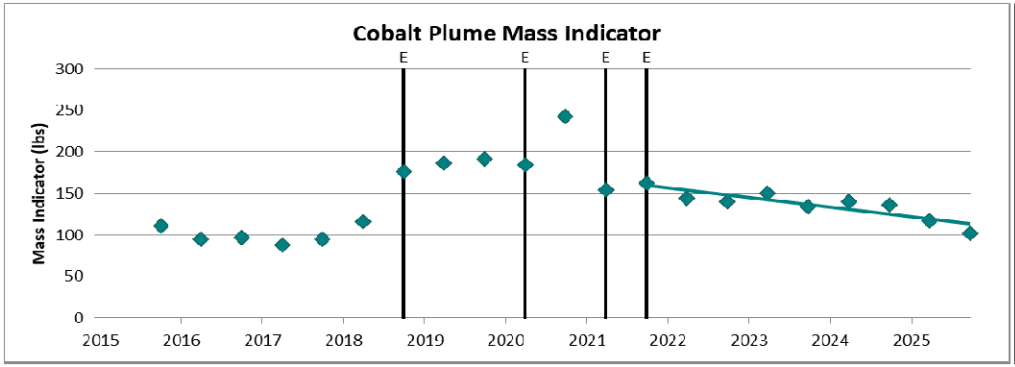
PROJECT NO.	PHASE	REV.	FIGURE
US0043274.2036		A	31



Oct-2021 to Oct-2025
Stable/Decreasing Trend
Mann-Kendall: 91% Confidence
Regression: 71% Confidence



Oct-2021 to Oct-2025
Decreasing Trend
Mann-Kendall: >99% Confidence
Regression: >99% Confidence



Oct-2021 to Oct-2025
Decreasing Trend
Mann-Kendall: >99% Confidence
Regression: >99% Confidence

LEGEND

E – Network Expansion

Notes

Groundwater Plume Analytics (c) Services

Abbreviations:
Oct - October
mg/L - milligrams per liter
lbs - pounds

CLIENT
Arizona Public Service Company

CONSULTANT
wsp

YYYY-MM-DD	2026-05-29
DESIGNED	
PREPARED	ER
REVIEWED	BW
APPROVED	MH

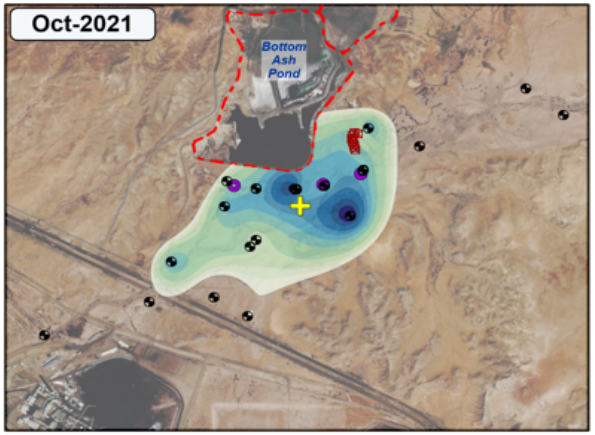
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Remedy Selection Report for the BAP and FAP

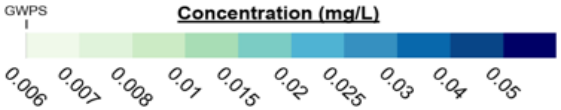
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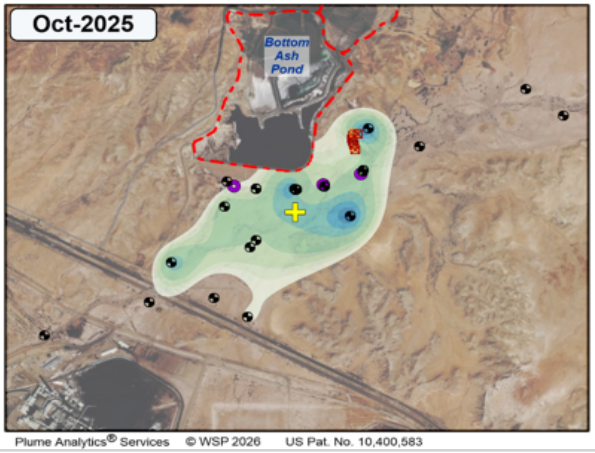
Cobalt Plume Stability Analysis Results Area, Average, Concentration, Mass Indicator Results (Oct 2021 to October 2025)

Navajo County, Arizona

PROJECT NO.	PHASE	REV.	FIGURE
US0043274.2036		A	32







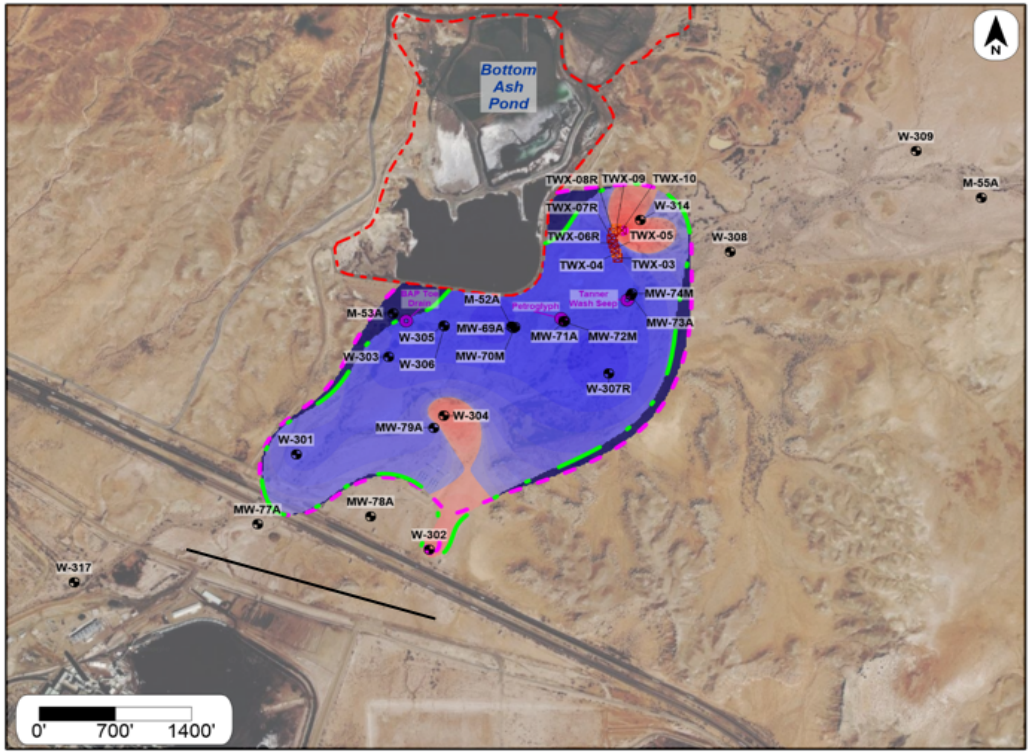
Plume Analytics® Services © WSP 2026 US Pat. No. 10,400,583

Cobalt Spatial Changes Oct-2021 vs Oct-2025

Plume Characteristics

Area: **8% Decrease**
Average Concentration: **32% Decrease**
Mass Indicator: **37% Decrease**
Mass Increase: **2.44 lbs Increase**
Mass Decrease: **63.5 lbs Decrease**

Monitoring Well
Extraction Well
Hanging Well
GWPS Groundwater Protection Standard
Plume Center of Mass
Seepage Collection Sump
Oct-2021 Plume Boundary
Oct-2025 Plume Boundary



Spatial Change Indicator™
Increase
Decrease

Notes

Groundwater Plume Analytics (c) Services

Abbreviations:
Oct - October
lbs - pounds

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WSP

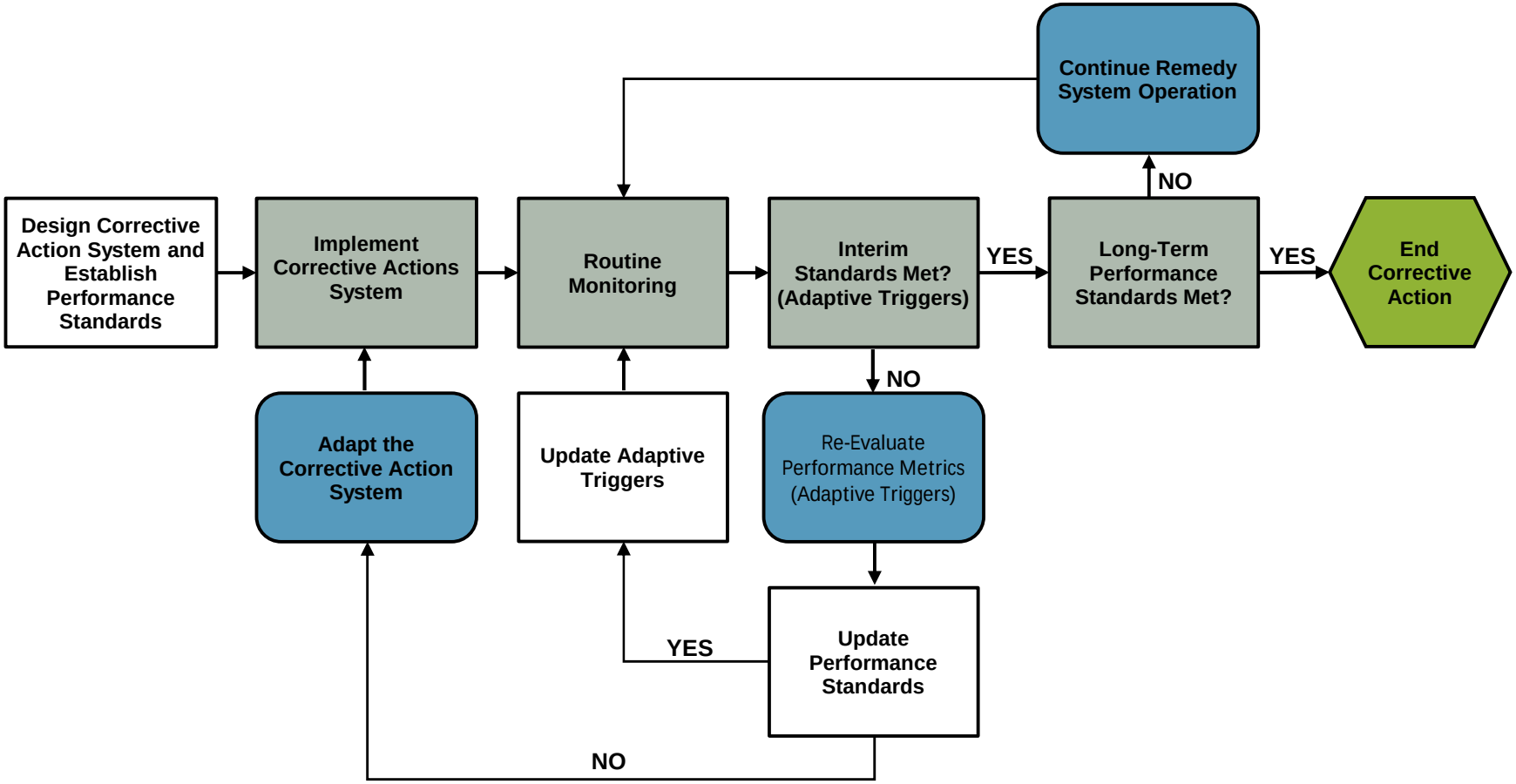
YYYY-MM-DD	2026-05-29
DESIGNED	
PREPARED	ER
REVIEWED	BW
APPROVED	MH

PROJECT
Remedy Selection Report for the BAP and FAP

TITLE
Cobalt Plume Spatial Changes (Oct 2021 to October 2025)

Navajo County, Arizona

PROJECT NO.	PHASE	REV.	FIGURE
US0043274.2036		A	33



LEGEND

Notes and Abbreviations

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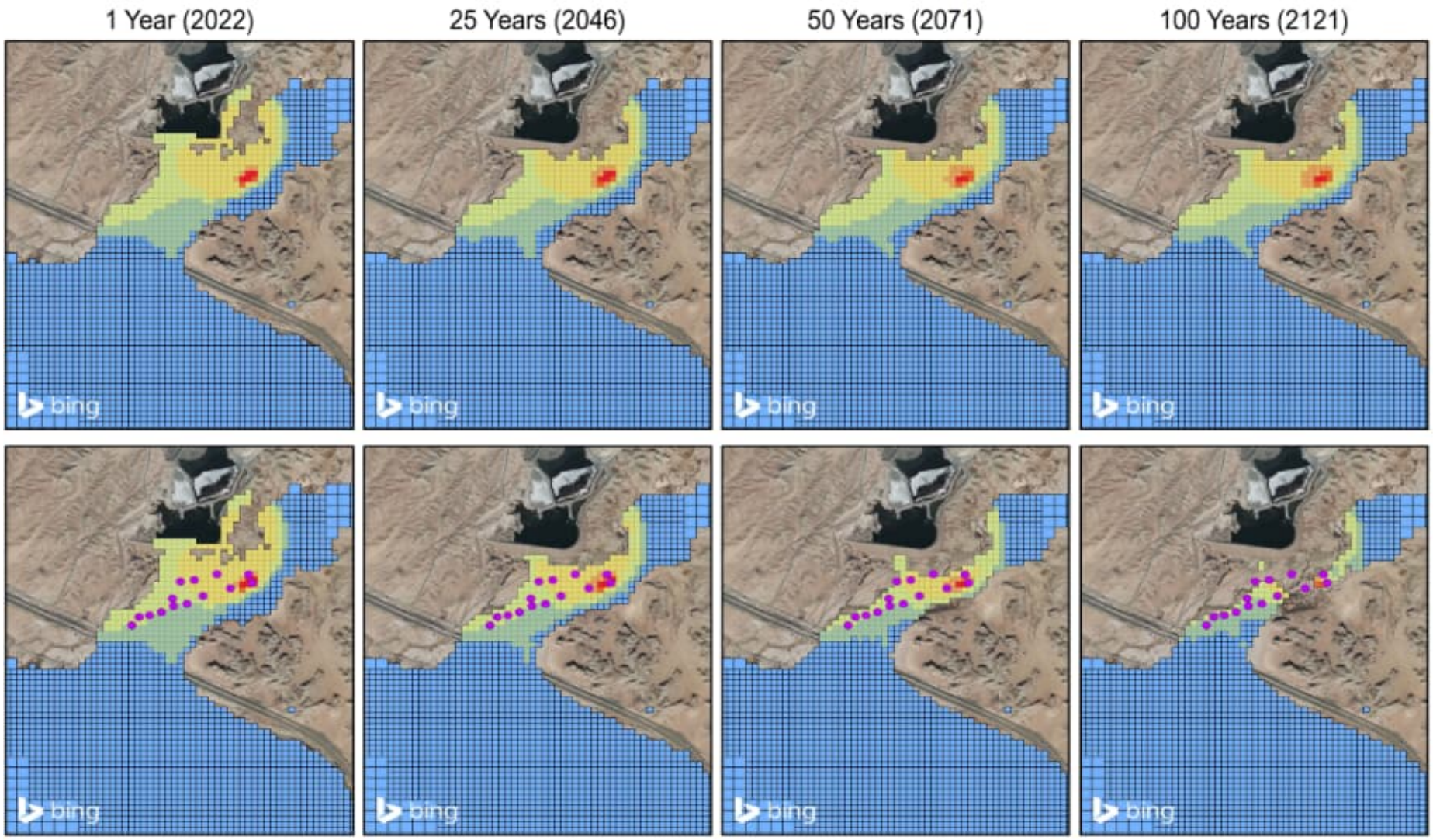
CONSULTANT

YYYY-MM-DD	2026-05-29
DESIGNED	
PREPARED	JW
REVIEWED	BW
APPROVED	MH

PROJECT
Remedy Selection Report for the BAP and FAP
Cholla Power Plant
Navajo County, Arizona

TITLE
Data Process Graph

PROJECT NO.	PHASE	REV.	FIGURE
US0043274.2036		A	34



LEGEND

Simulated Concentration at or Above Groundwater Protection Standard, micrograms per liter

- 0.006 - 0.01
- > 0.01 - 0.02
- > 0.02 - 0.03
- > 0.03 - 0.04
- > 0.04 - 0.05
- > 0.05 - 0.067

Notes and Abbreviations

From Figure 31: Cobalt with Sorption: Base scenario (top) and corrective action at 70 gpm scenario (bottom)
Montgomeray and Associates, 2024

Partially or fully saturated cell

Proposed Location of 5 gpm well

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CONSULTANT

wsp

YYYY-MM-DD	2026-05-29
DESIGNED	
PREPARED	JW
REVIEWED	BW
APPROVED	MH

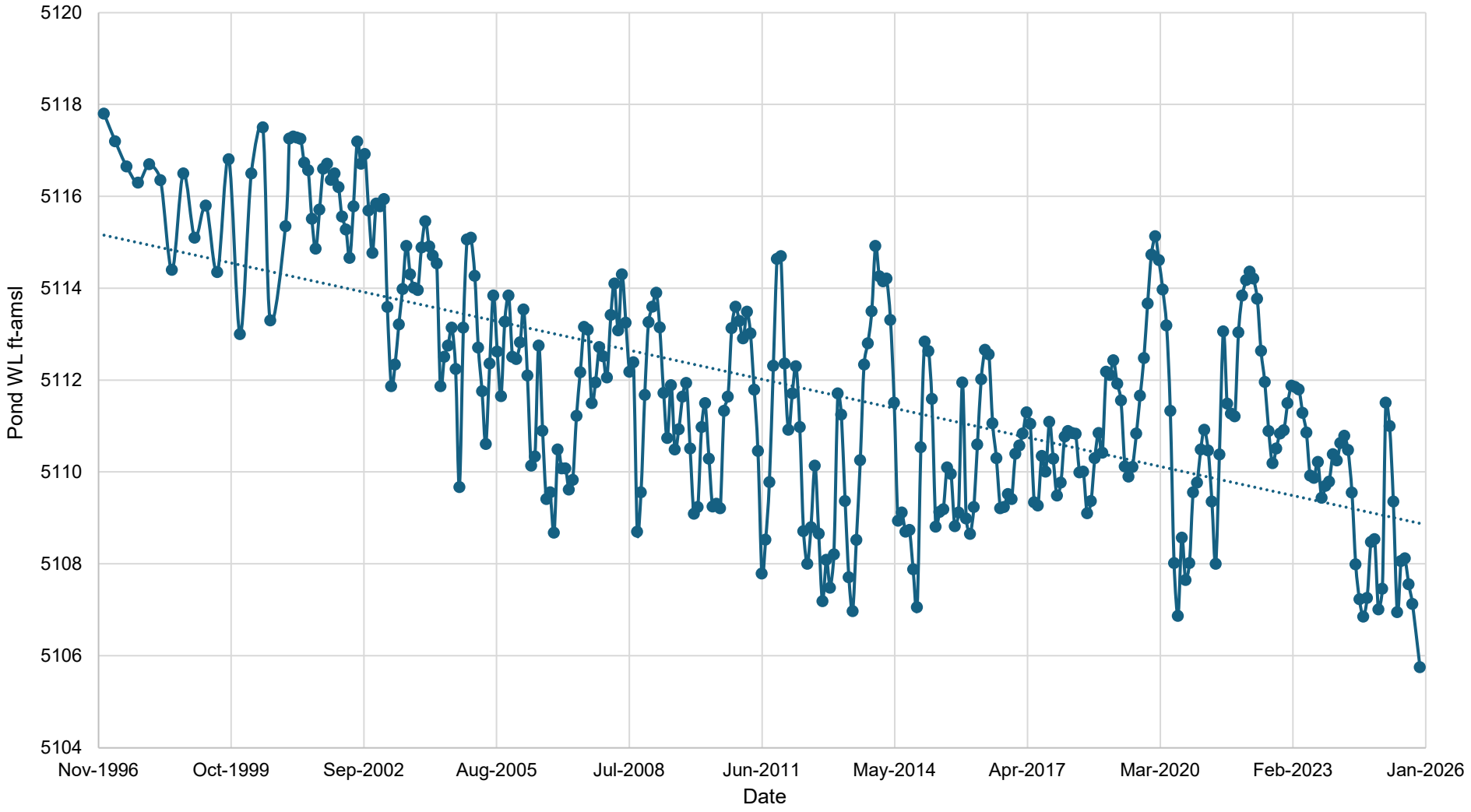
PROJECT

Remedy Selection Report for the BAP and FAP
Cholla Power Plant
Navajo County, Arizona

TITLE

Groundwater Model Results For Cobalt With Sorption at the BAP

PROJECT NO.	PHASE	REV.	FIGURE
US0043274.2036		A	35



LEGEND

BAP Historical WLs

Linear (BAP Historical WLs)

Notes and Abbreviations

Abbreviations:
amsl - above mean sea level
ft - feet
WL - Water Level

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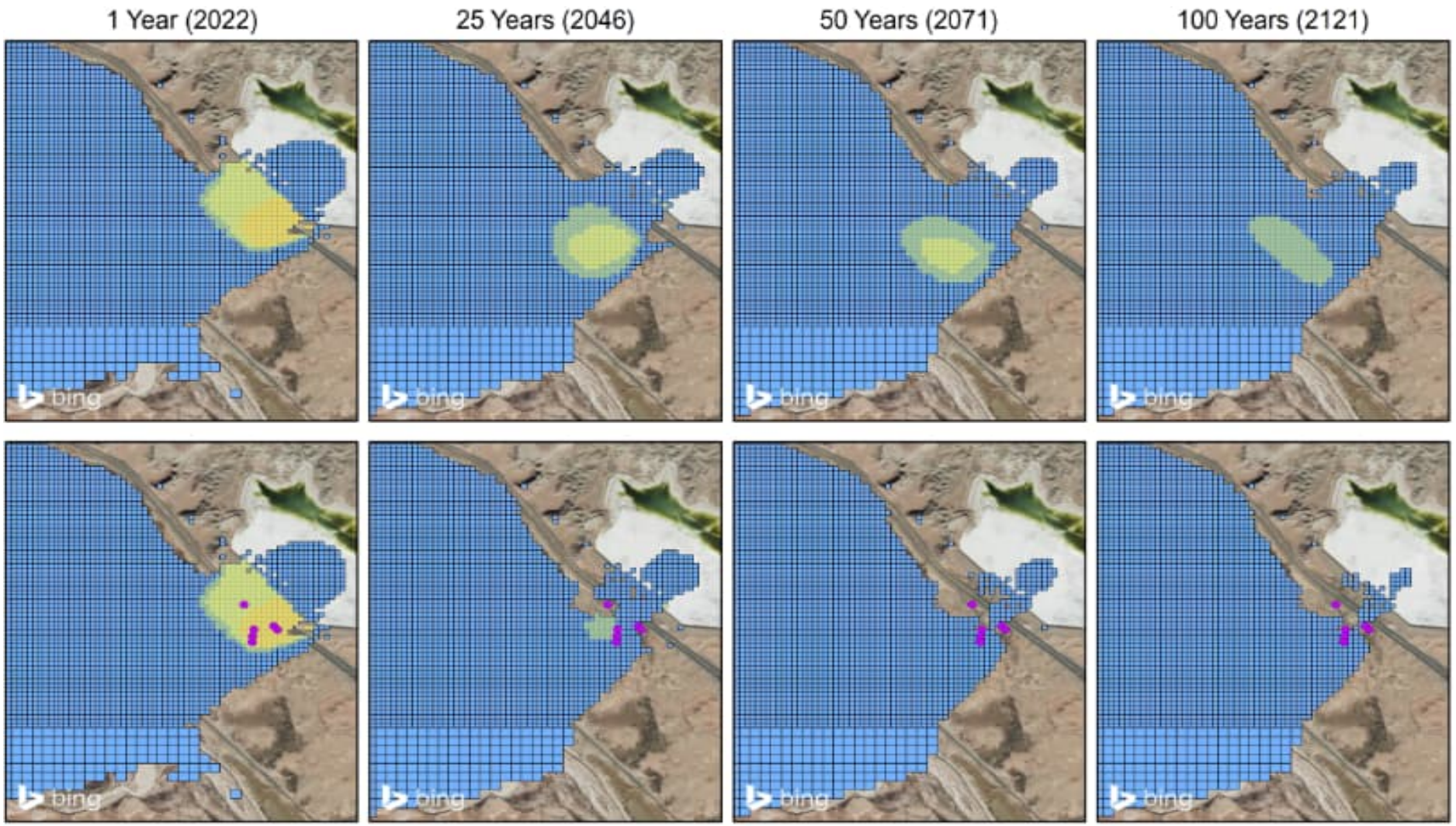
CONSULTANT
wsp

YYYY-MM-DD	2026-05-29
DESIGNED	
PREPARED	JW
REVIEWED	BW
APPROVED	MH

PROJECT
Remedy Selection Report for the BAP and FAP
Cholla Power Plant
Navajo County, Arizona

TITLE
Hydrograph for the BAP Historical Free Water Level

PROJECT NO.	PHASE	REV.	FIGURE
US0043274.2036		A	36



LEGEND

Simulated Concentration at or Above Groundwater Protection Standard, micrograms per liter

- 0.31 - 0.4
- > 0.4 - 0.5
- > 0.5 - 0.6
- > 0.6 - 0.7

Notes and Abbreviations

From Figure 25: Lithium: Base scenario (top) and corrective action at 30 gpm scenario (bottom)
Montgomeray and Associates, 2024

- Partially or fully saturated cell
- Proposed Location of 5 gpm well

CLIENT
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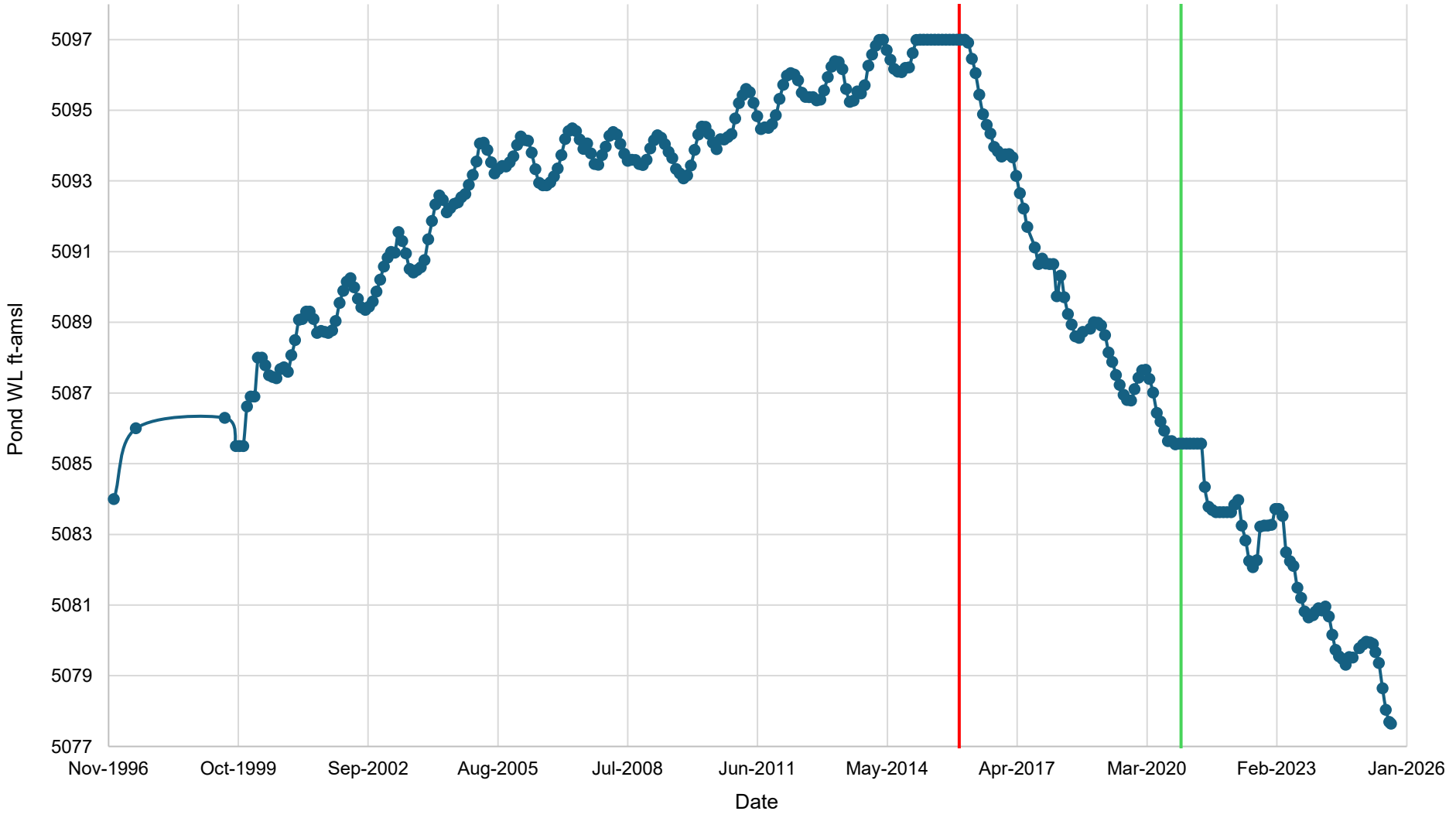
CONSULTANT
wsp

YYYY-MM-DD	2026-05-29
DESIGNED	
PREPARED	JW
REVIEWED	BW
APPROVED	MH

PROJECT
Remedy Selection Report for the BAP and FAP
Cholla Power Plant
Navajo County, Arizona

TITLE
Groundwater Model Results for Lithium at the FAP

PROJECT NO.	PHASE	REV.	FIGURE
US0043274.2036		A	37



LEGEND

- Start of Diverting Discharge to BAP
- Start Dewatering Operations
- FAP Historical WLs

Notes and Abbreviations

Abbreviations:
amsl - above mean sea level
ft - feet
WL - Water Level

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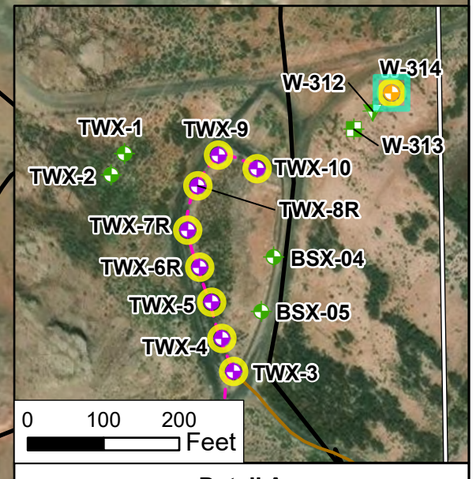
YYYY-MM-DD	2026-05-29
DESIGNED	
PREPARED	JW
REVIEWED	BW
APPROVED	MH

PROJECT
Remedy Selection Report for the BAP and FAP
Cholla Power Plant
Navajo County, Arizona

TITLE
Hydrograph for the FAP
Historical Free Water Level

PROJECT NO.	PHASE	REV.	FIGURE
US0043274.2036		A	38

W-309
M-55A
See Detail A
W-308
W-305
W-306
Toe Drain Sump
Petroglyph Sump
MW-74M
M-53A
TDX-4
MW-73A
M-52A
MW-71A
TDX-3
Tanner Wash Sump
TDX-5
MW-72M
MW-70M
W-303
MW-69A
W-307R
W-304
MW-79A
W-301
BSX-7
MW-78A
BSX-6
MW-77A
W-302
MW-76A



Detail A

Legend

CCR Monitoring Well Location

- Alluvial Monitoring Well
- C-Aquifer Monitoring Well
- Moenkopi Formation (Moqui Member) Monitoring Well
- Moenkopi Formation (Wupatki Member) Monitoring Well
- CCR Monitoring Well - Downgradient Boundary, Alluvial
- CCR Monitoring Well - Downgradient Boundary, Moenkopi Formation (Moqui Member)

Other Features

- Extraction Well
- Seepage Collection Sump
- Future Extraction Wells
- Long Term Performance Monitoring
- Interim Performance Monitoring
- Approximate Extent of CCR Unit
- Estimated Alluvial Extent
- Seepage Intercept Trenches
- Extraction Piping
- APS Land Ownership

Notes and Abbreviations:

MW-304	Well Identification
CCR	Coal Combustion Residuals

0 300 600
Feet

N

Arizona Public Service
Cholla Power Plant
Navajo County, Arizona

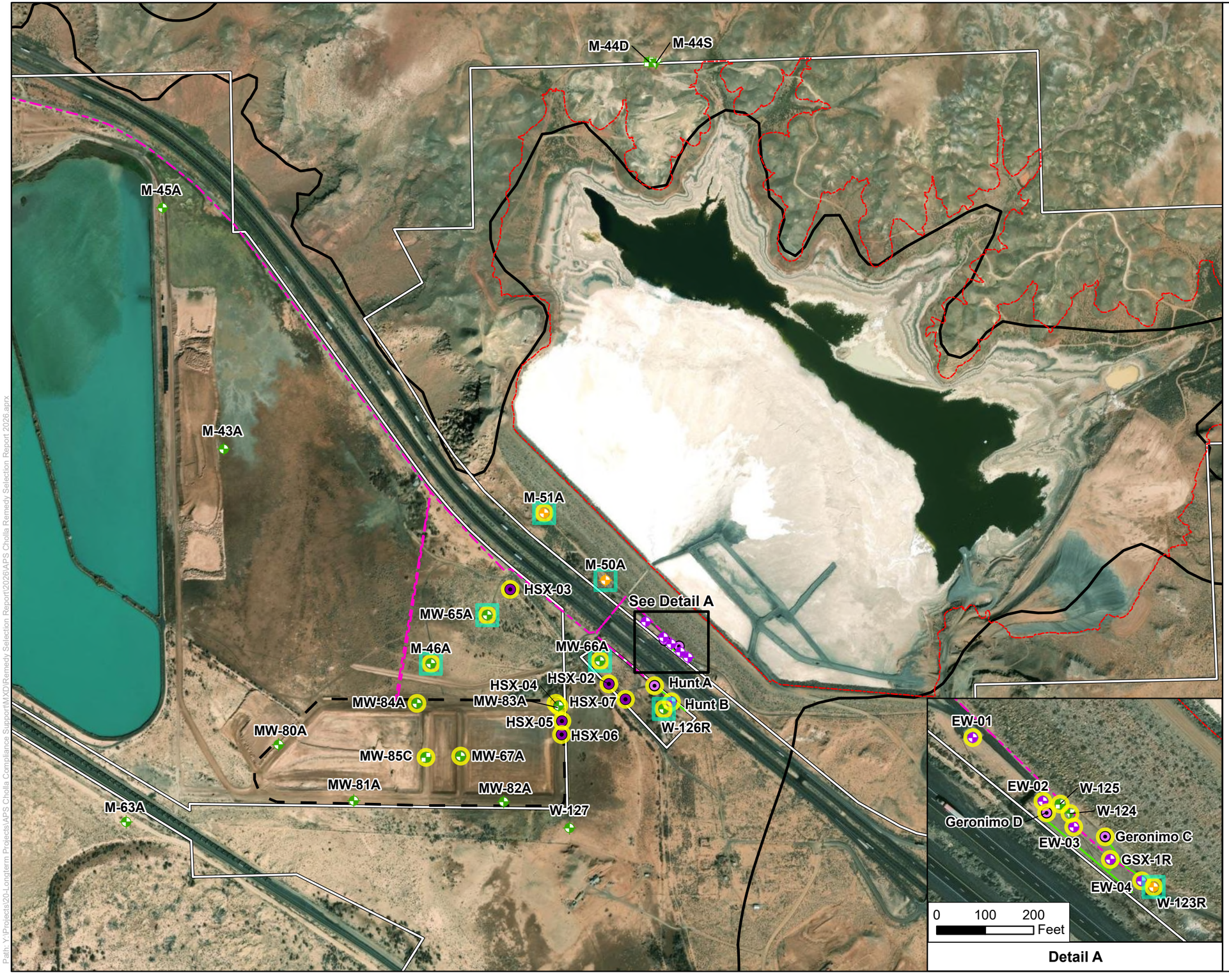
Figure 39

BAP Performance Monitoring Locations

Job No.	US0043274.2036
PM:	MBH
Date:	5/28/2026
Scale:	1"= 600'

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Path: Y:\Projects\20-Longterm Projects\APS Cholla Compliance Support\MXD\Remedy Selection Report\2026\APS Cholla Remedy Selection Report 2026.aprx



Detail A

Legend

Monitoring Well Location

- Alluvial Monitoring Well
- C-Aquifer Monitoring Well
- Moenkopi Formation (Wupatki Member) Monitoring Well
- CCR Monitoring Well - Downgradient Boundary, Alluvial

Other Features

- Extraction Well
- Seepage Collection Sump
- Long Term Performance Monitoring
- Interim Performance Monitoring
- Future Extraction Well
- Approximate Extent of CCR Unit
- APS Land Ownership
- Evaporartion Pond
- Seepage Intercept Trenches
- Extraction Piping
- Estimated Alluvial Extent

Notes and Abbreviations:

W-123R Well Identification
CCR Coal Combustion Residuals

0 400 800
Feet

N

Arizona Public Service
Cholla Power Plant
Navajo County, Arizona

Figure **40**

FAP Performance Monitoring Locations

Job No.	US0043274.2036
PM:	MBH
Date:	5/22/2026
Scale:	1"= 800'

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Path: Y:\Projects\20-Longterm Projects\APS Cholla Compliance Support\MXD\Remedy Selection Report\2026\APS Cholla Remedy Selection Report 2026.aprx

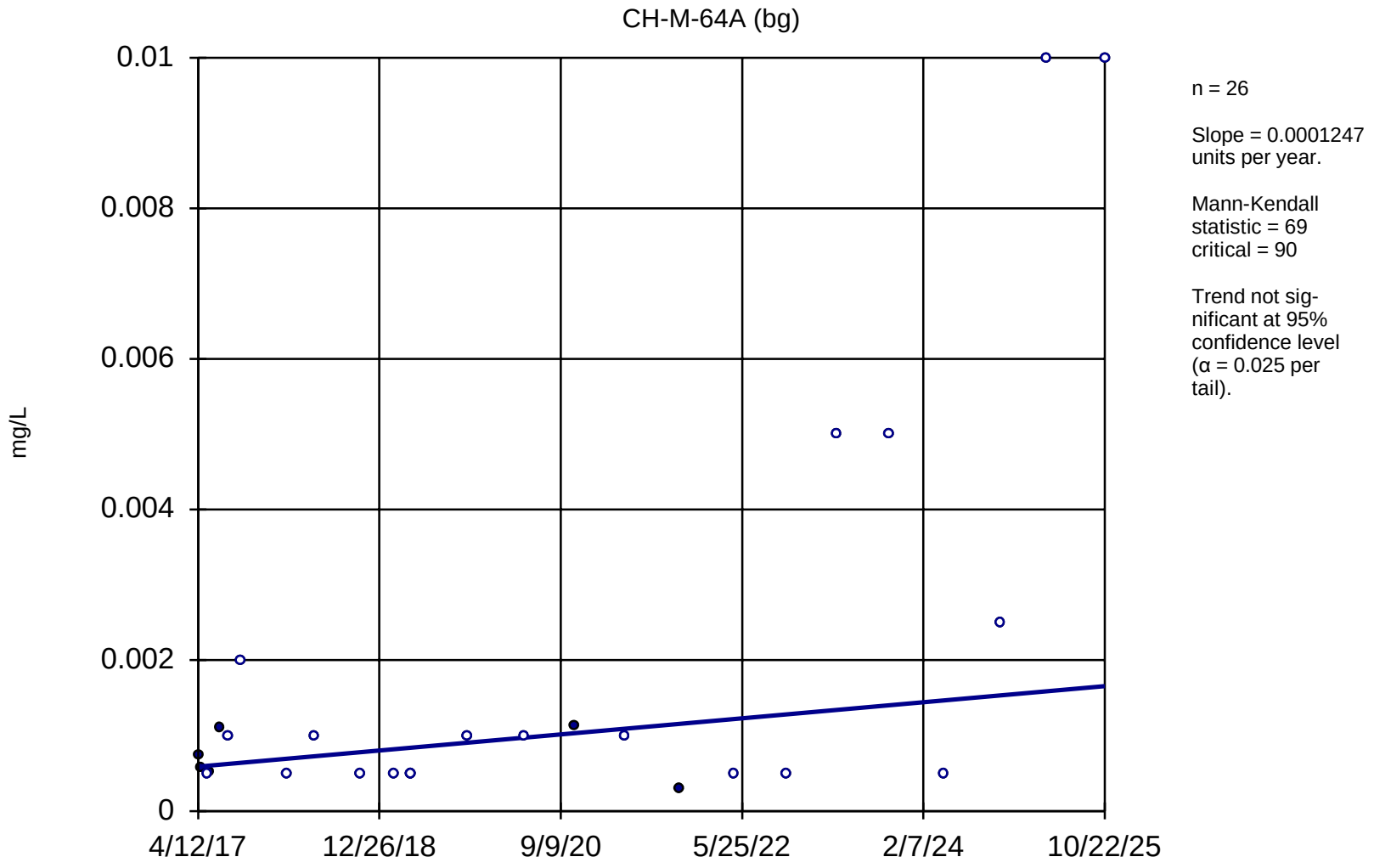
Appendices

A

Sanitas Analysis

Hollow symbols indicate censored values.

Sen's Slope Estimator

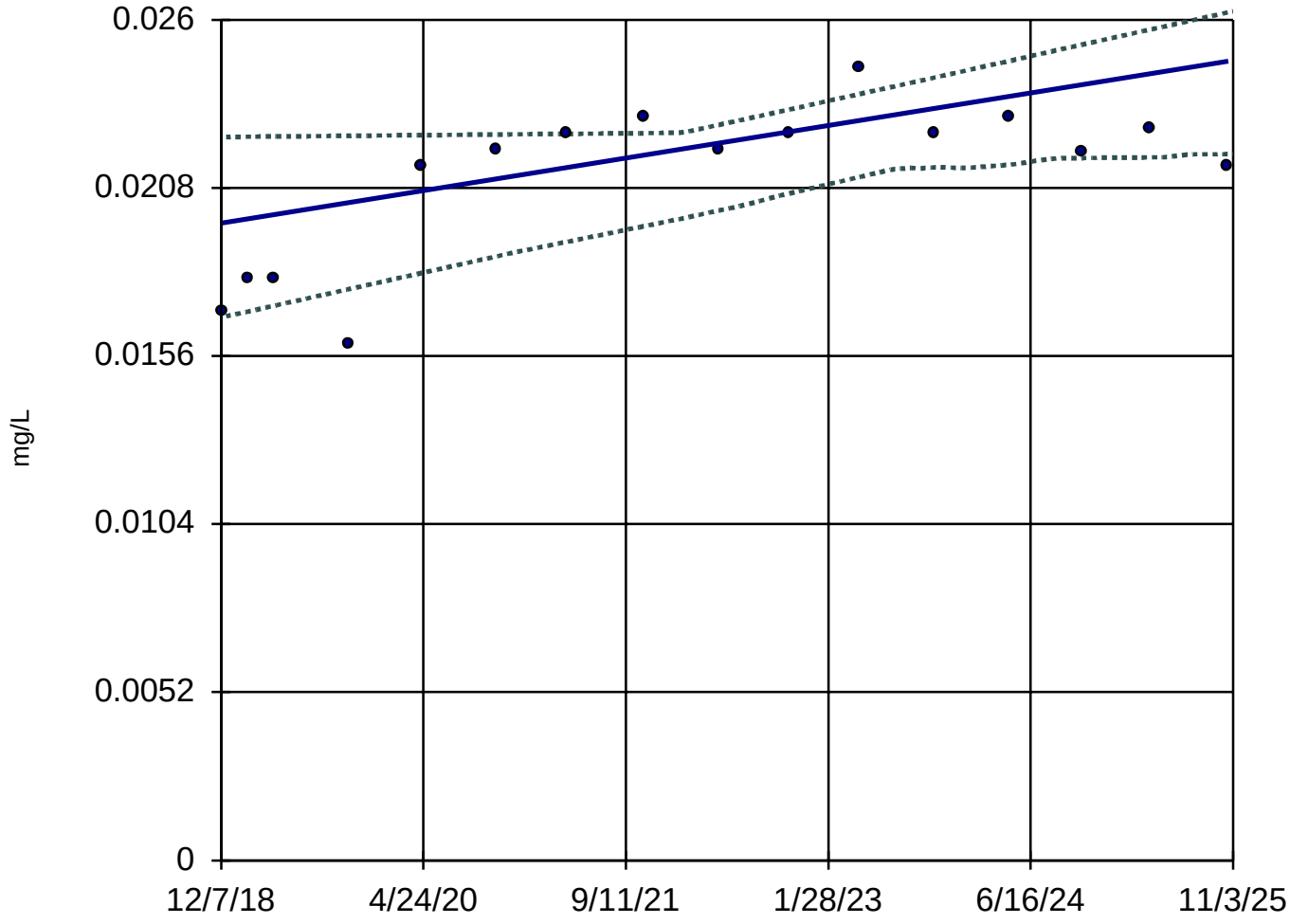


Constituent: Cobalt Analysis Run 2/26/2026 9:27 AM

Cholla Power Plant Client: WSP Data: APS Stats Table BAP Remedy Selection

Sen's Slope and 95% Confidence Band

CH-W-301



n = 16

Slope = 0.0007266 units per year.

Mann-Kendall statistic = 53
critical = 45

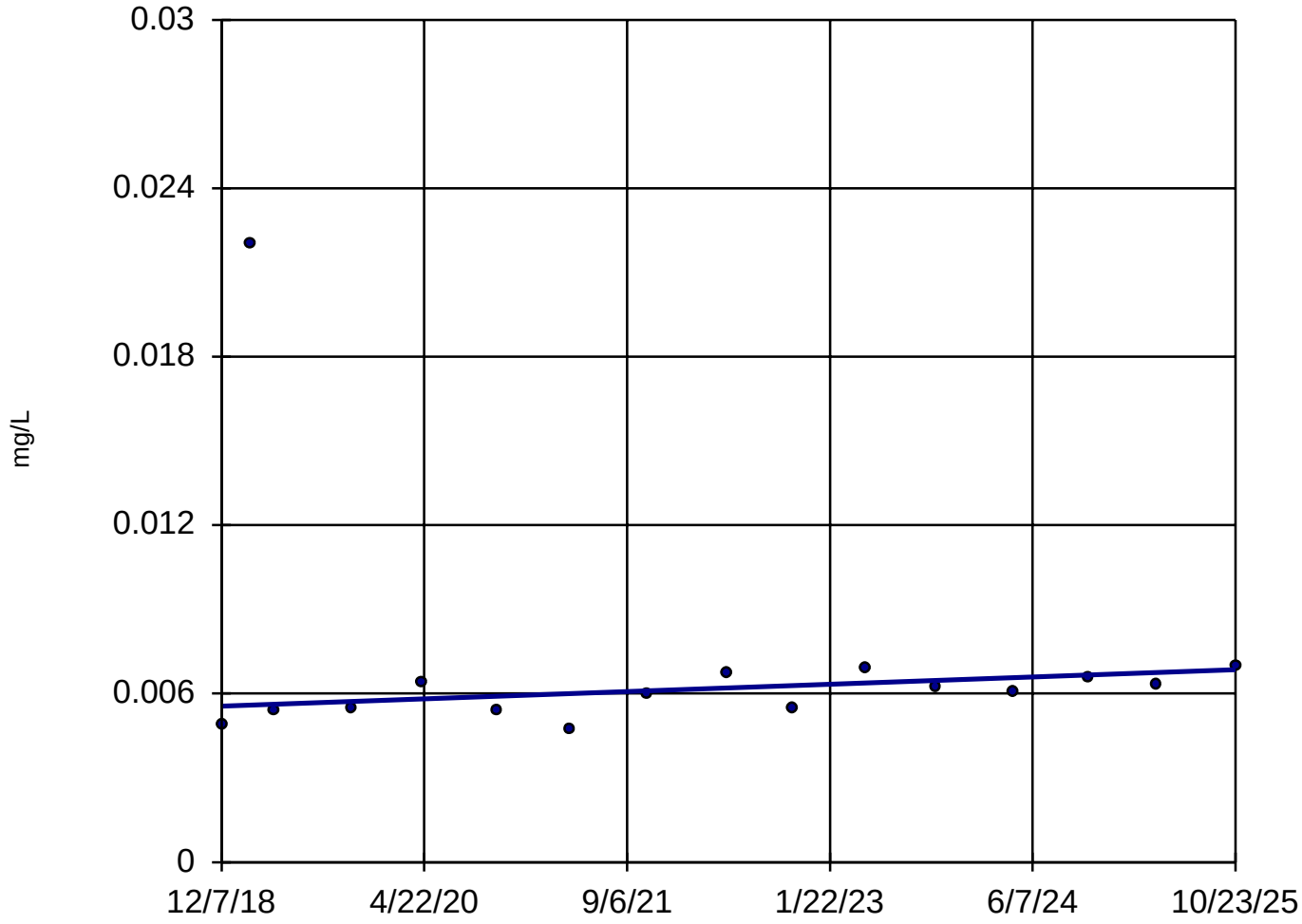
Increasing trend significant at 95% confidence level (α = 0.025 per tail).

Constituent: Cobalt Analysis Run 2/26/2026 9:27 AM

Cholla Power Plant Client: WSP Data: APS Stats Table BAP Remedy Selection

Sen's Slope Estimator

CH-W-302



n = 16

Slope = 0.0001912 units per year.

Mann-Kendall statistic = 41
critical = 45

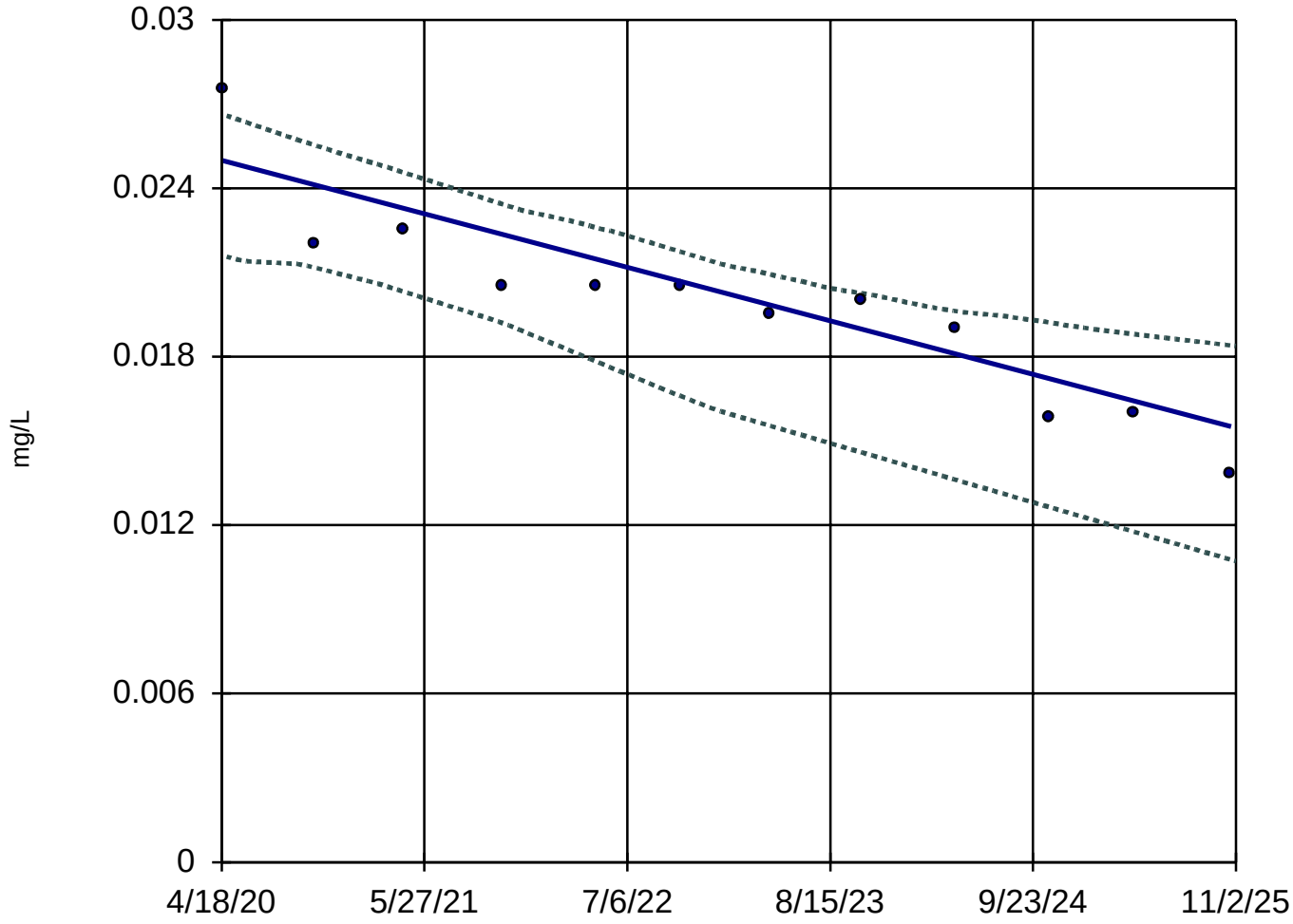
Trend not significant at 95% confidence level (α = 0.025 per tail).

Constituent: Cobalt Analysis Run 2/26/2026 9:27 AM

Cholla Power Plant Client: WSP Data: APS Stats Table BAP Remedy Selection

Sen's Slope and 95% Confidence Band

CH-W-303



n = 12

Slope = -0.001718 units per year.

Mann-Kendall statistic = -57
critical = -30

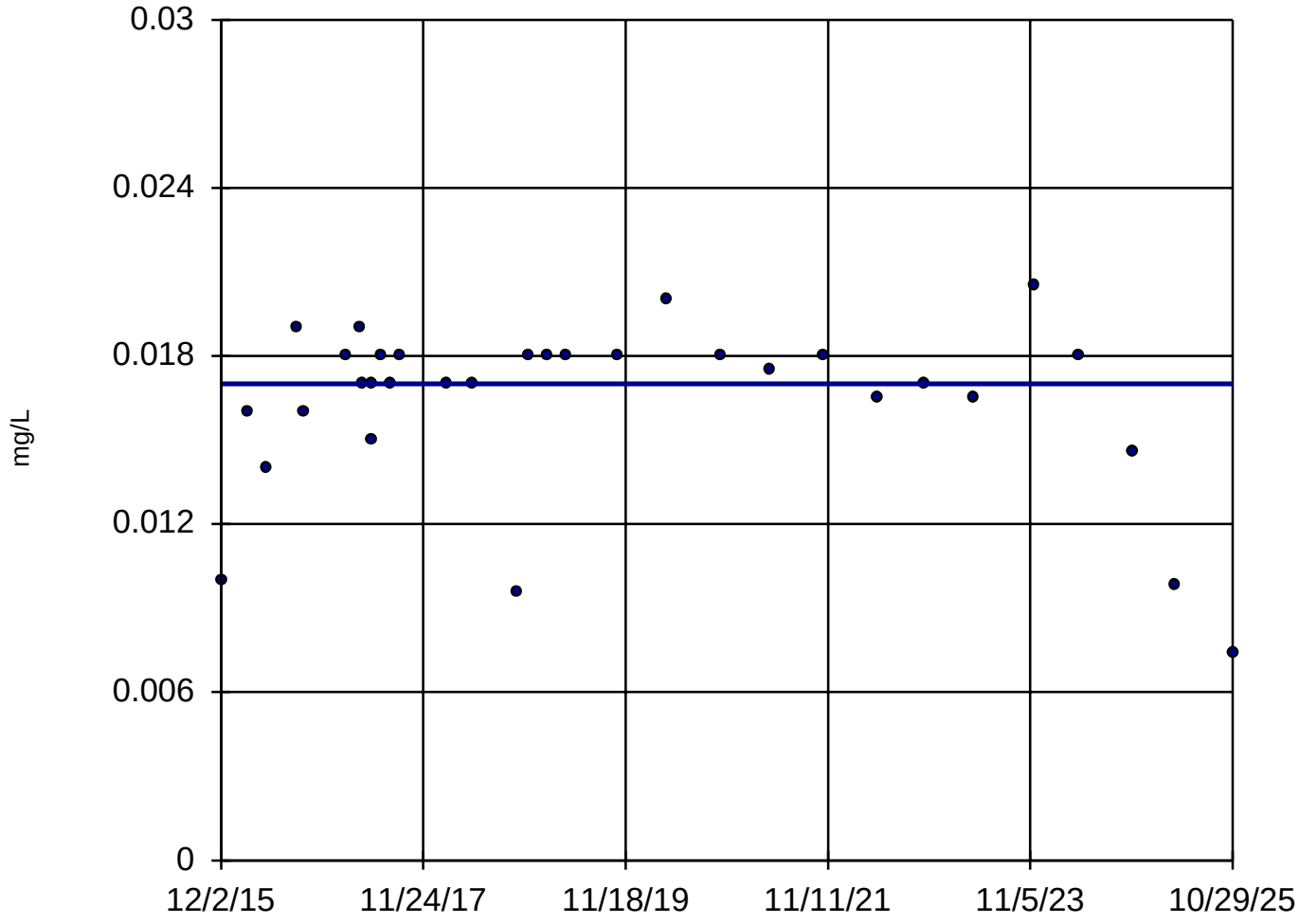
Decreasing trend significant at 95% confidence level (α = 0.025 per tail).

Constituent: Cobalt Analysis Run 2/26/2026 9:27 AM

Cholla Power Plant Client: WSP Data: APS Stats Table BAP Remedy Selection

Sen's Slope Estimator

CH-W-305



n = 32

Slope = 0
units per year.

Mann-Kendall
statistic = 7
critical = 123

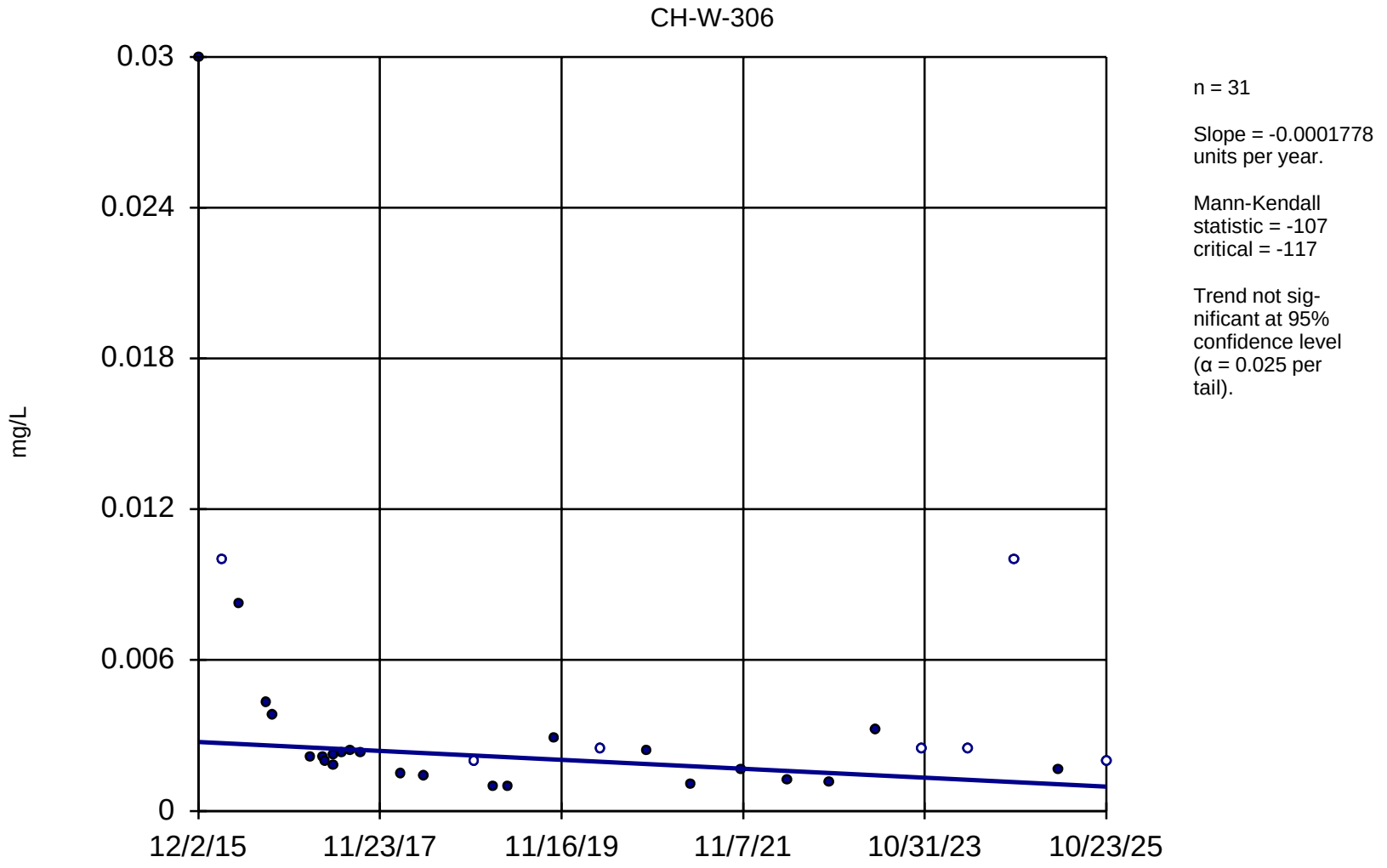
Trend not sig-
nificant at 95%
confidence level
(α = 0.025 per
tail).

Constituent: Cobalt Analysis Run 2/26/2026 9:27 AM

Cholla Power Plant Client: WSP Data: APS Stats Table BAP Remedy Selection

Hollow symbols indicate censored values.

Sen's Slope Estimator

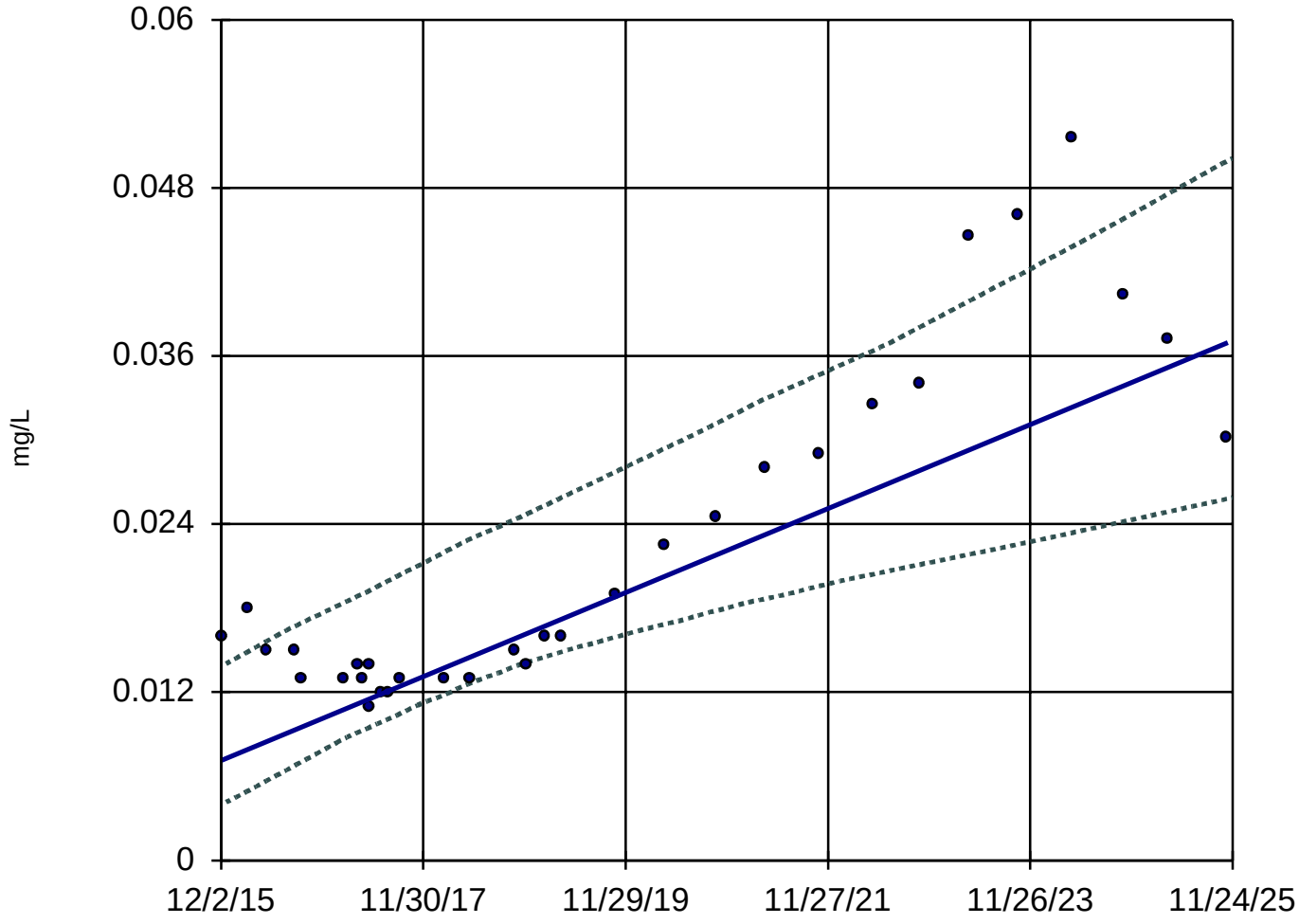


Constituent: Cobalt Analysis Run 2/26/2026 9:27 AM

Cholla Power Plant Client: WSP Data: APS Stats Table BAP Remedy Selection

Sen's Slope and 95% Confidence Band

CH-W-314



n = 32

Slope = 0.003004 units per year.

Mann-Kendall statistic = 287
critical = 123

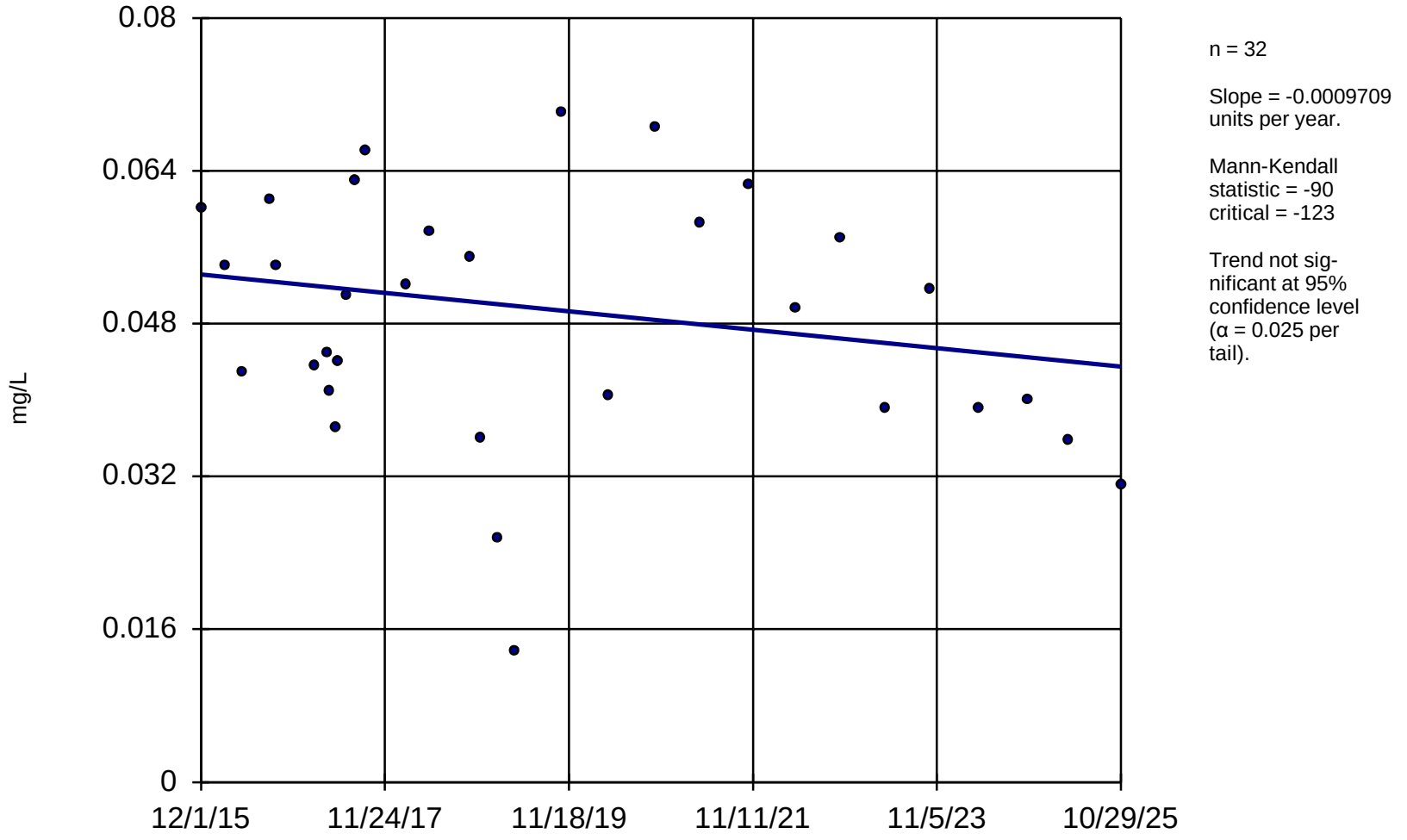
Increasing trend significant at 95% confidence level (α = 0.025 per tail).

Constituent: Cobalt Analysis Run 2/26/2026 9:27 AM

Cholla Power Plant Client: WSP Data: APS Stats Table BAP Remedy Selection

Sen's Slope Estimator

M-52A



n = 32

Slope = -0.0009709 units per year.

Mann-Kendall statistic = -90
critical = -123

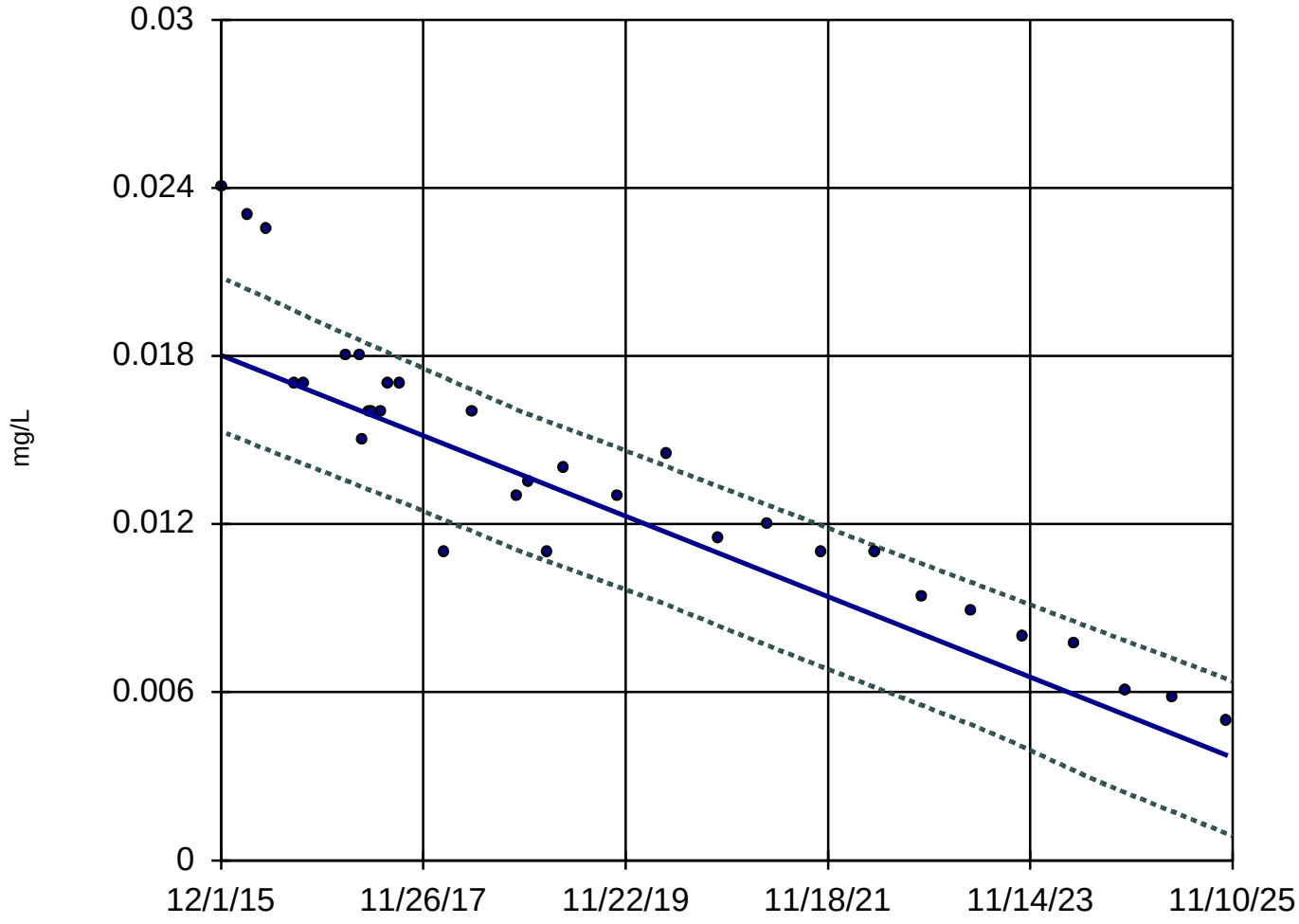
Trend not significant at 95% confidence level (α = 0.025 per tail).

Constituent: Cobalt Analysis Run 2/26/2026 9:27 AM

Cholla Power Plant Client: WSP Data: APS Stats Table BAP Remedy Selection

Sen's Slope and 95% Confidence Band

M-53A



n = 32

Slope = -0.001444 units per year.

Mann-Kendall statistic = -402
critical = -123

Decreasing trend significant at 95% confidence level (α = 0.025 per tail).

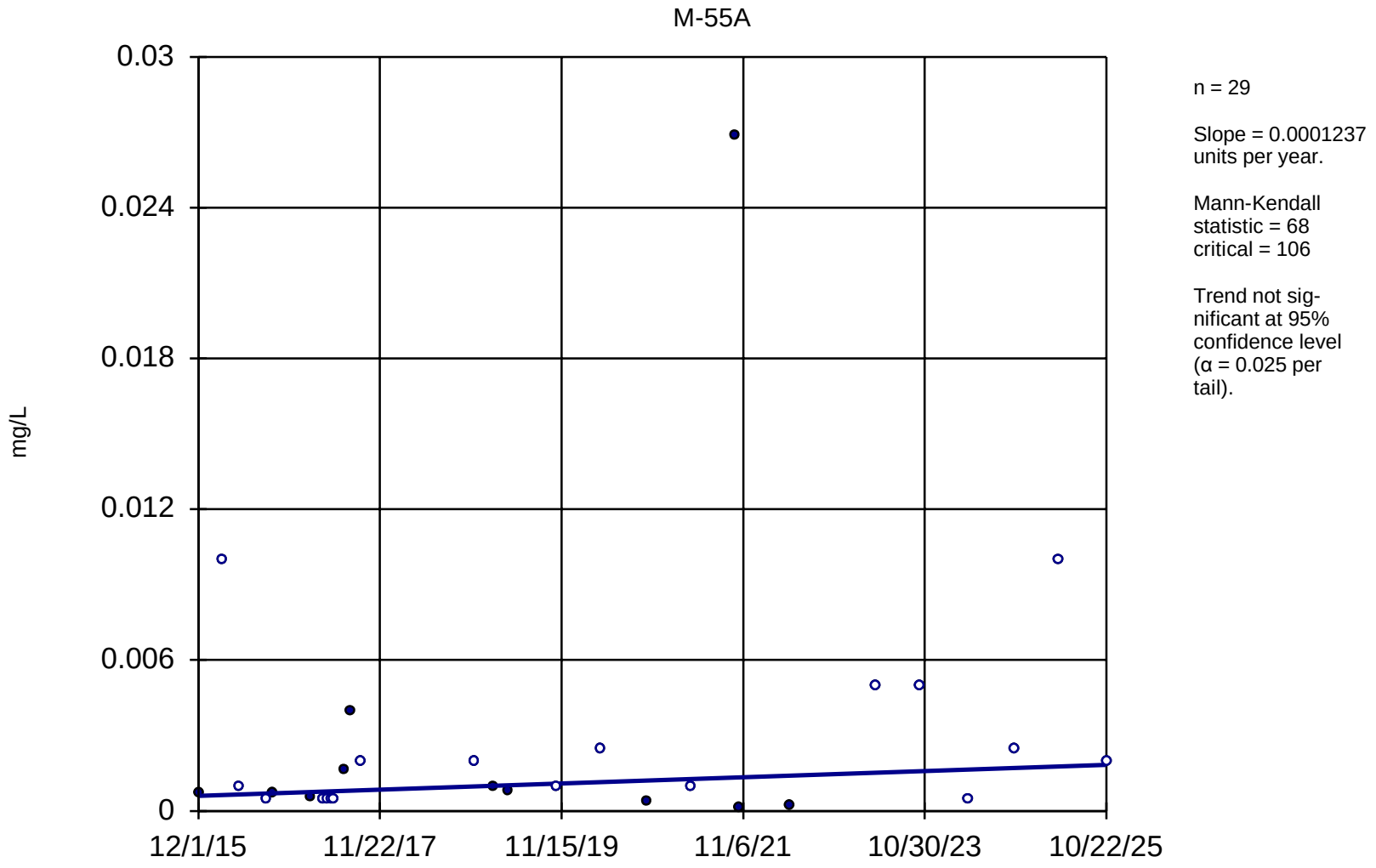
Constituent: Cobalt Analysis Run 2/26/2026 9:27 AM

Cholla Power Plant Client: WSP Data: APS Stats Table BAP Remedy Selection

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Hollow symbols indicate censored values.

Sen's Slope Estimator

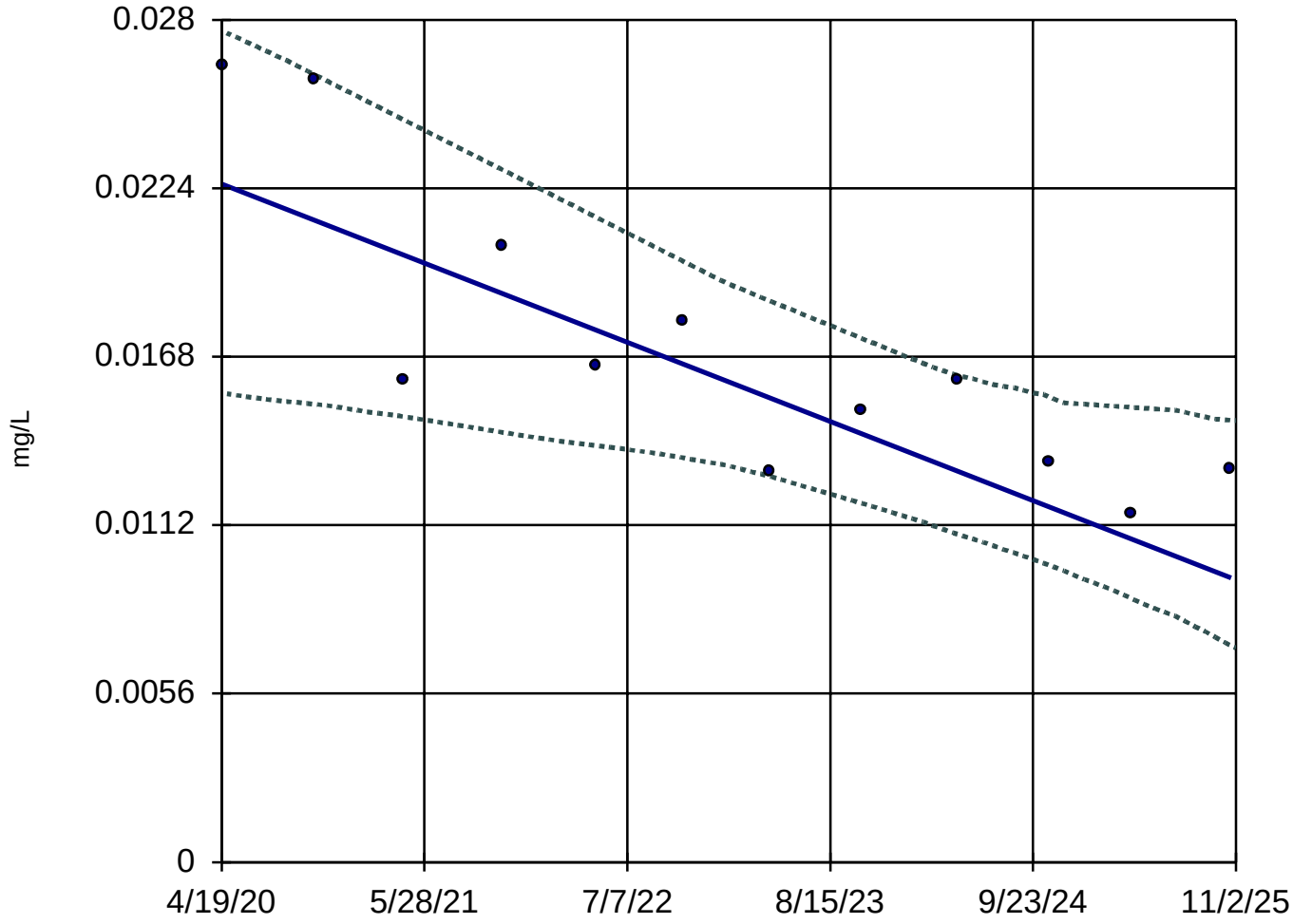


Constituent: Cobalt Analysis Run 2/26/2026 9:27 AM

Cholla Power Plant Client: WSP Data: APS Stats Table BAP Remedy Selection

Sen's Slope and 95% Confidence Band

MW-69A



n = 12

Slope = -0.002375 units per year.

Mann-Kendall statistic = -45
critical = -30

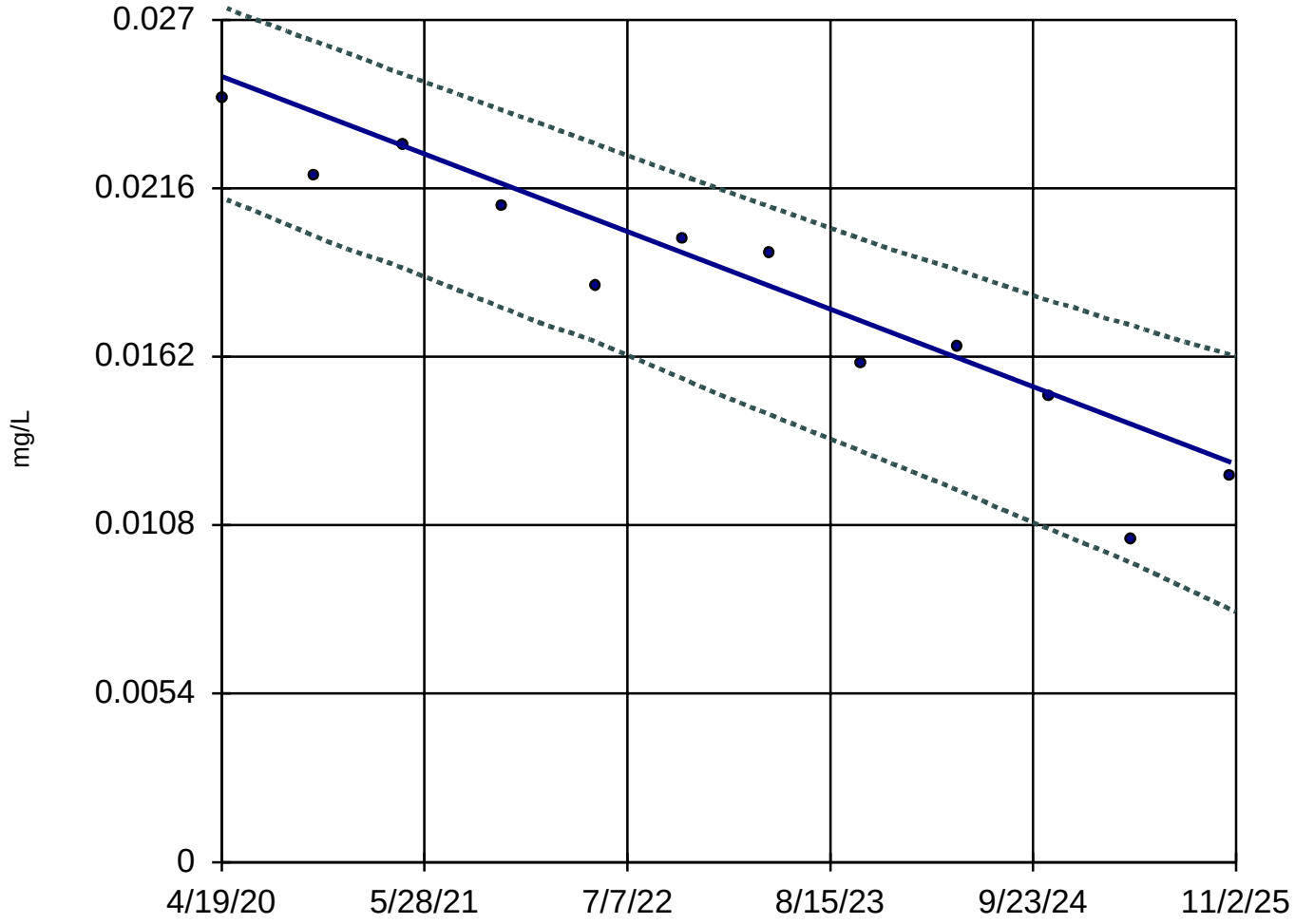
Decreasing trend significant at 95% confidence level (α = 0.025 per tail).

Constituent: Cobalt Analysis Run 2/26/2026 9:27 AM

Cholla Power Plant Client: WSP Data: APS Stats Table BAP Remedy Selection

Sen's Slope and 95% Confidence Band

MW-70M



n = 12

Slope = -0.002242 units per year.

Mann-Kendall statistic = -56
critical = -30

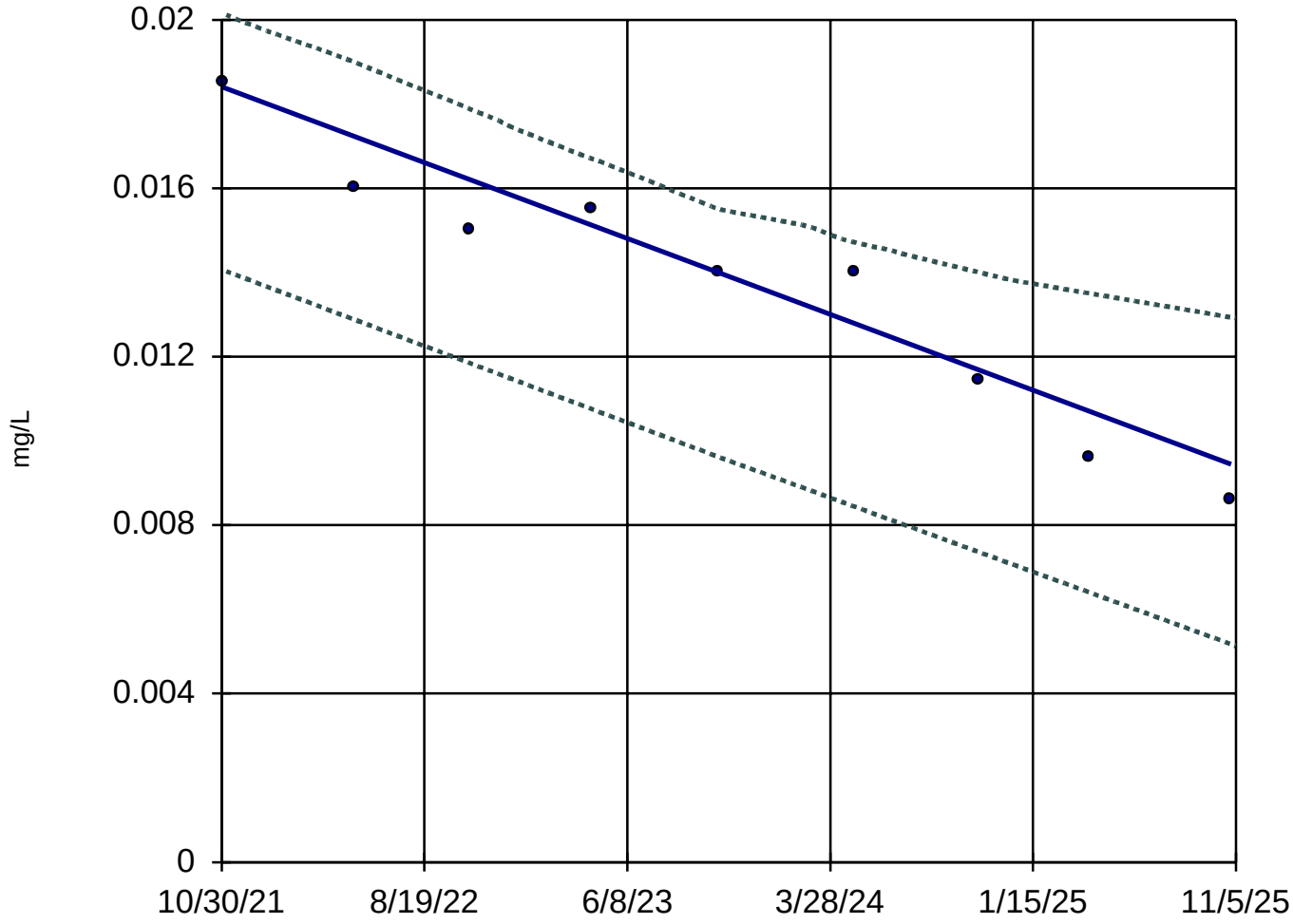
Decreasing trend significant at 95% confidence level (α = 0.025 per tail).

Constituent: Cobalt Analysis Run 2/26/2026 9:27 AM

Cholla Power Plant Client: WSP Data: APS Stats Table BAP Remedy Selection

Sen's Slope and 95% Confidence Band

MW-71A



n = 9

Slope = -0.002239 units per year.

Mann-Kendall statistic = -33
critical = -20

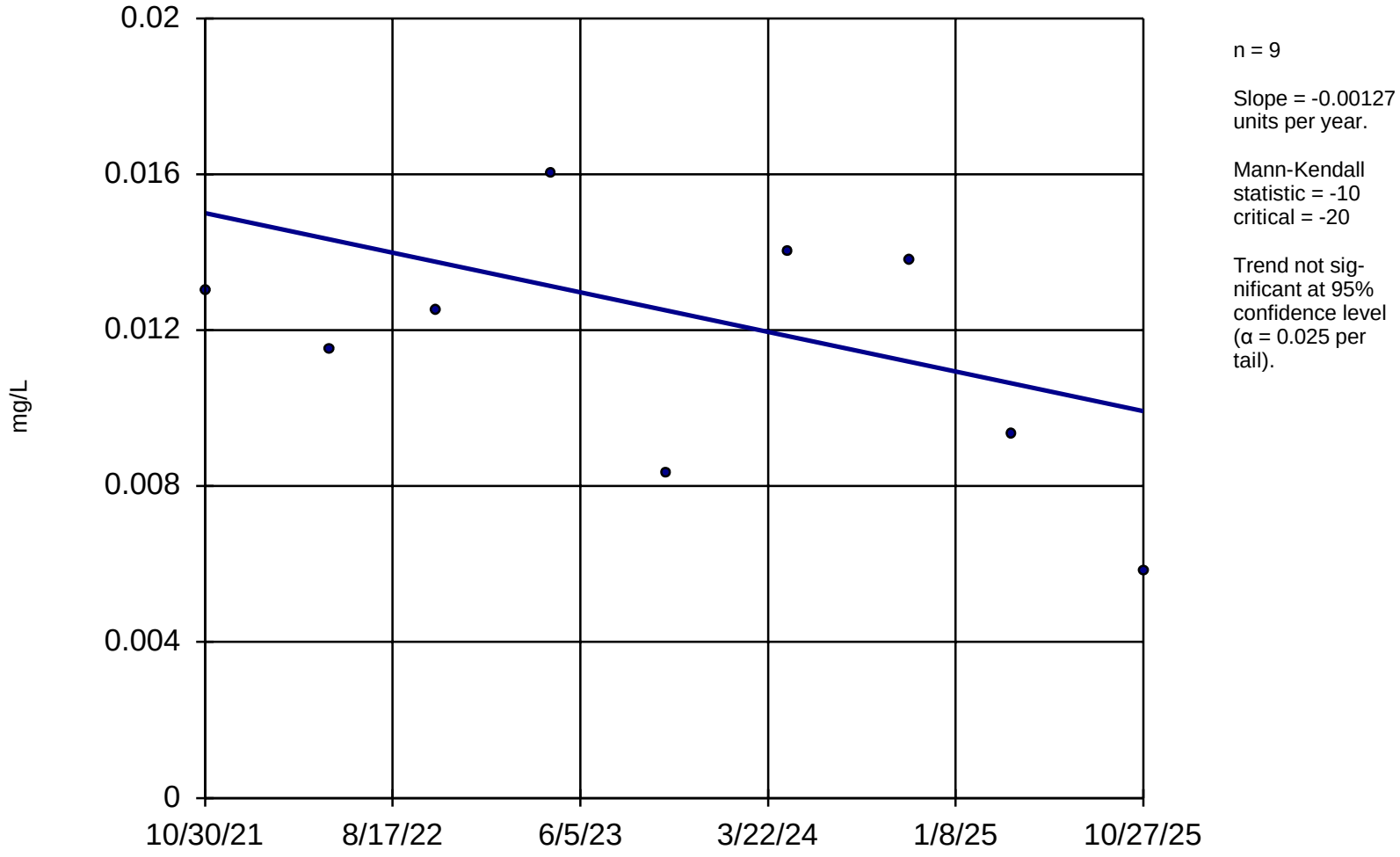
Decreasing trend significant at 95% confidence level (α = 0.025 per tail).

Constituent: Cobalt Analysis Run 2/26/2026 9:27 AM

Cholla Power Plant Client: WSP Data: APS Stats Table BAP Remedy Selection

Sen's Slope Estimator

MW-73A



n = 9

Slope = -0.00127 units per year.

Mann-Kendall statistic = -10
critical = -20

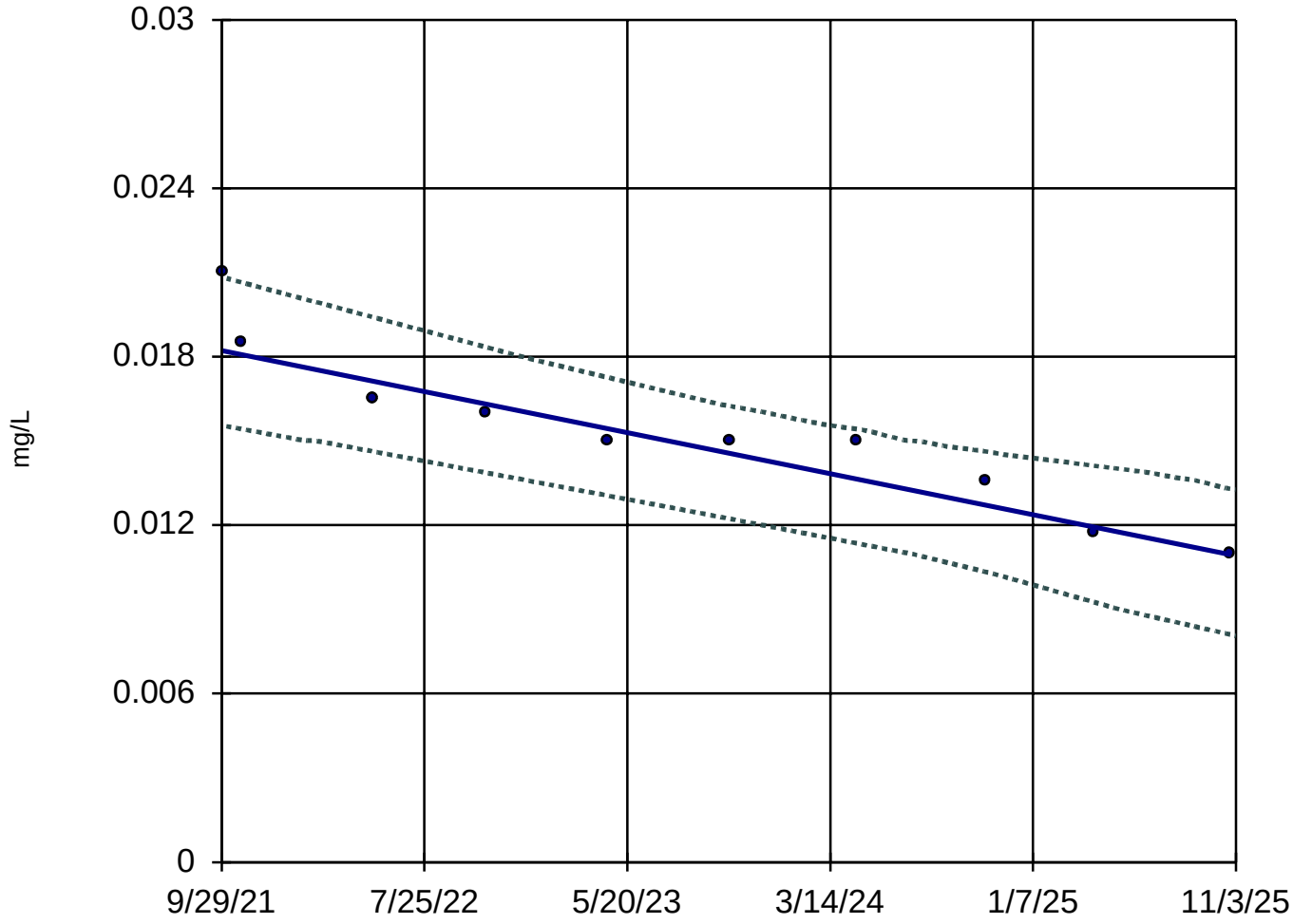
Trend not significant at 95% confidence level (α = 0.025 per tail).

Constituent: Cobalt Analysis Run 2/26/2026 9:27 AM

Cholla Power Plant Client: WSP Data: APS Stats Table BAP Remedy Selection

Sen's Slope and 95% Confidence Band

MW-74M



n = 10

Slope = -0.001779 units per year.

Mann-Kendall statistic = -42
critical = -23

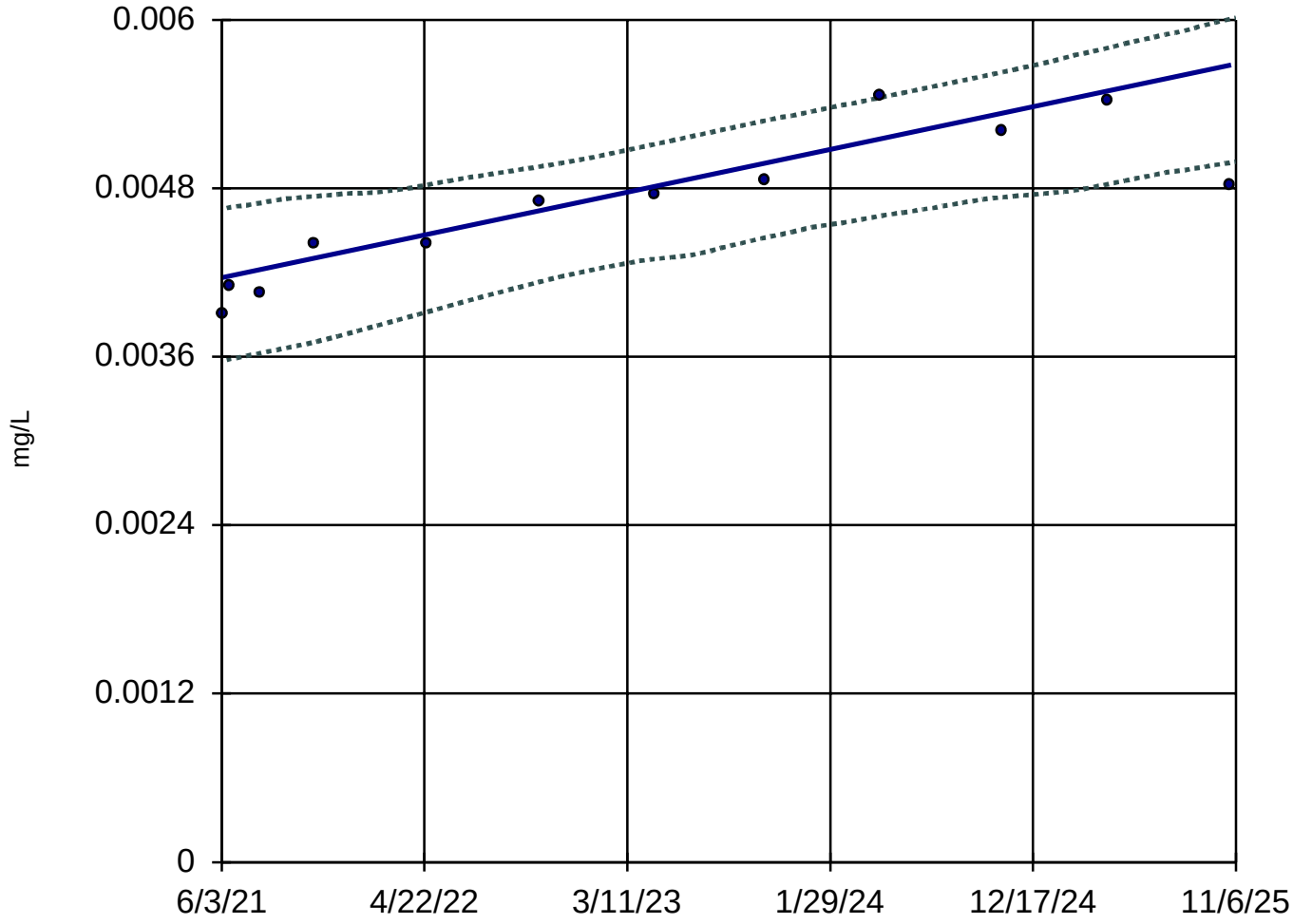
Decreasing trend significant at 95% confidence level (α = 0.025 per tail).

Constituent: Cobalt Analysis Run 2/26/2026 9:27 AM

Cholla Power Plant Client: WSP Data: APS Stats Table BAP Remedy Selection

Sen's Slope and 95% Confidence Band

MW-77A



n = 12

Slope = 0.000344 units per year.

Mann-Kendall statistic = 51
critical = 30

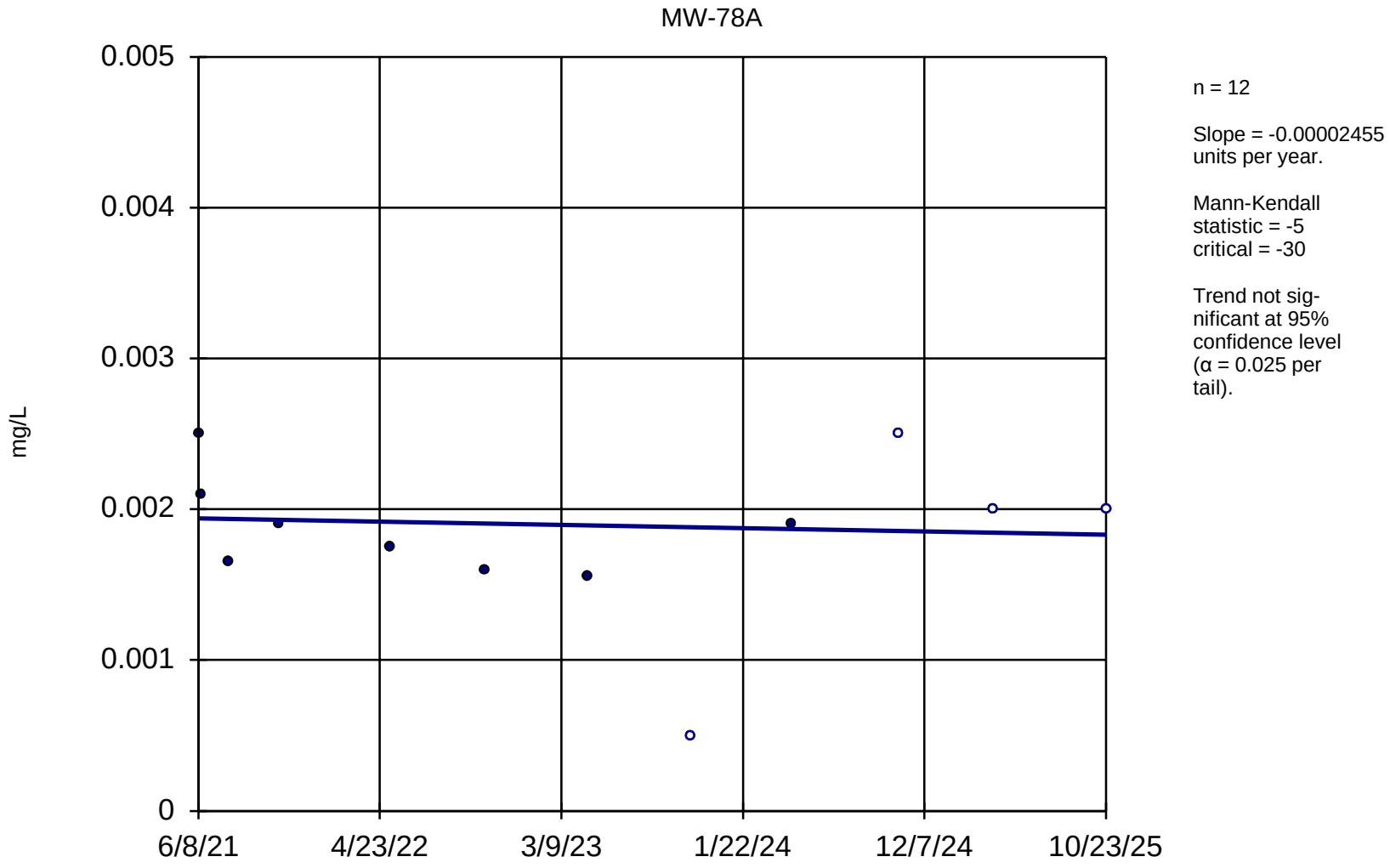
Increasing trend significant at 95% confidence level (α = 0.025 per tail).

Constituent: Cobalt Analysis Run 2/26/2026 9:27 AM

Cholla Power Plant Client: WSP Data: APS Stats Table BAP Remedy Selection

Hollow symbols indicate censored values.

Sen's Slope Estimator



Constituent: Cobalt Analysis Run 2/26/2026 9:27 AM

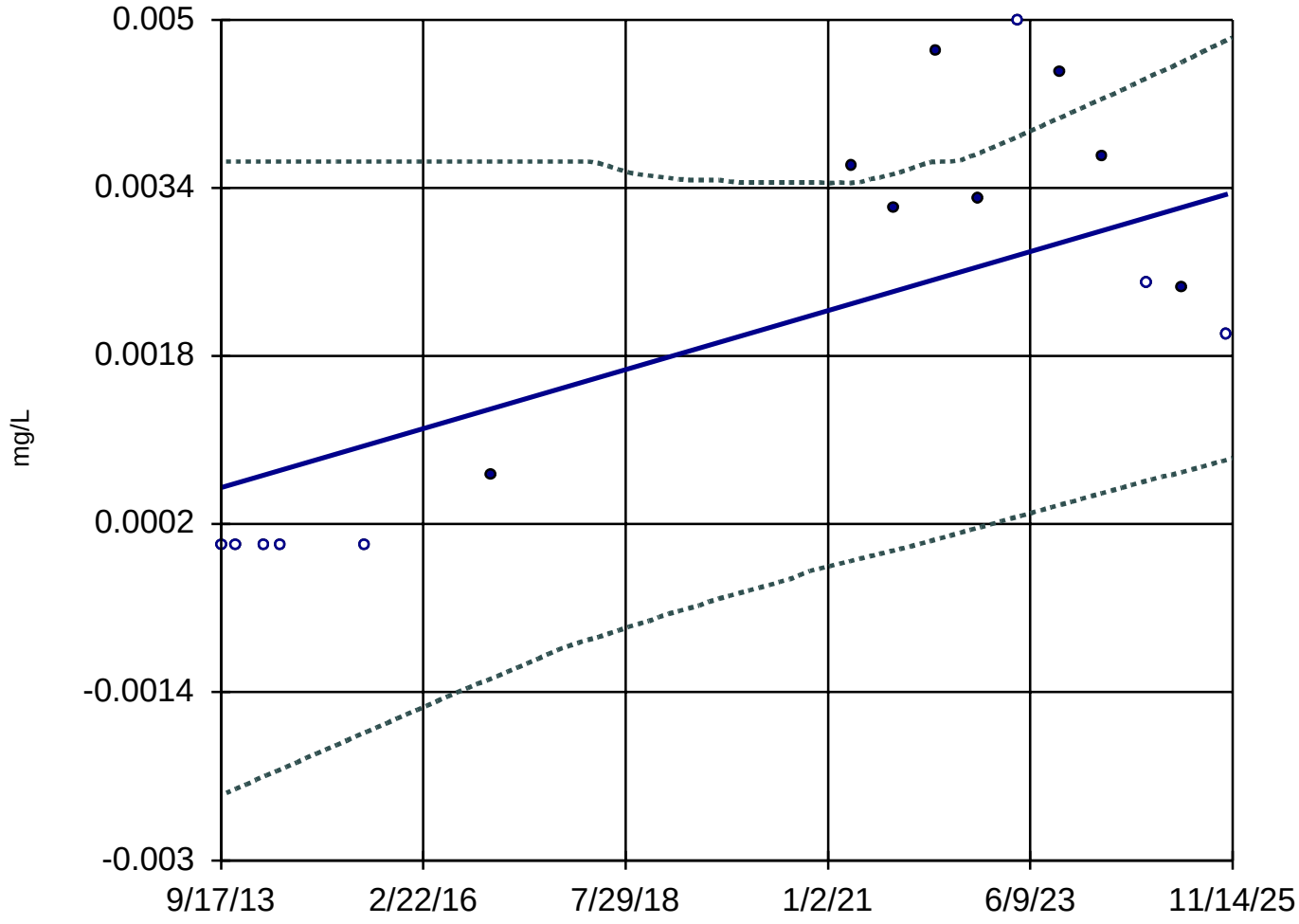
Cholla Power Plant Client: WSP Data: APS Stats Table BAP Remedy Selection

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Hollow symbols indicate censored values.

Sen's Slope and 95% Confidence Band

CH-M-45A



n = 16

Slope = 0.0002308 units per year.

Mann-Kendall statistic = 46
critical = 45

Increasing trend significant at 95% confidence level (α = 0.025 per tail).

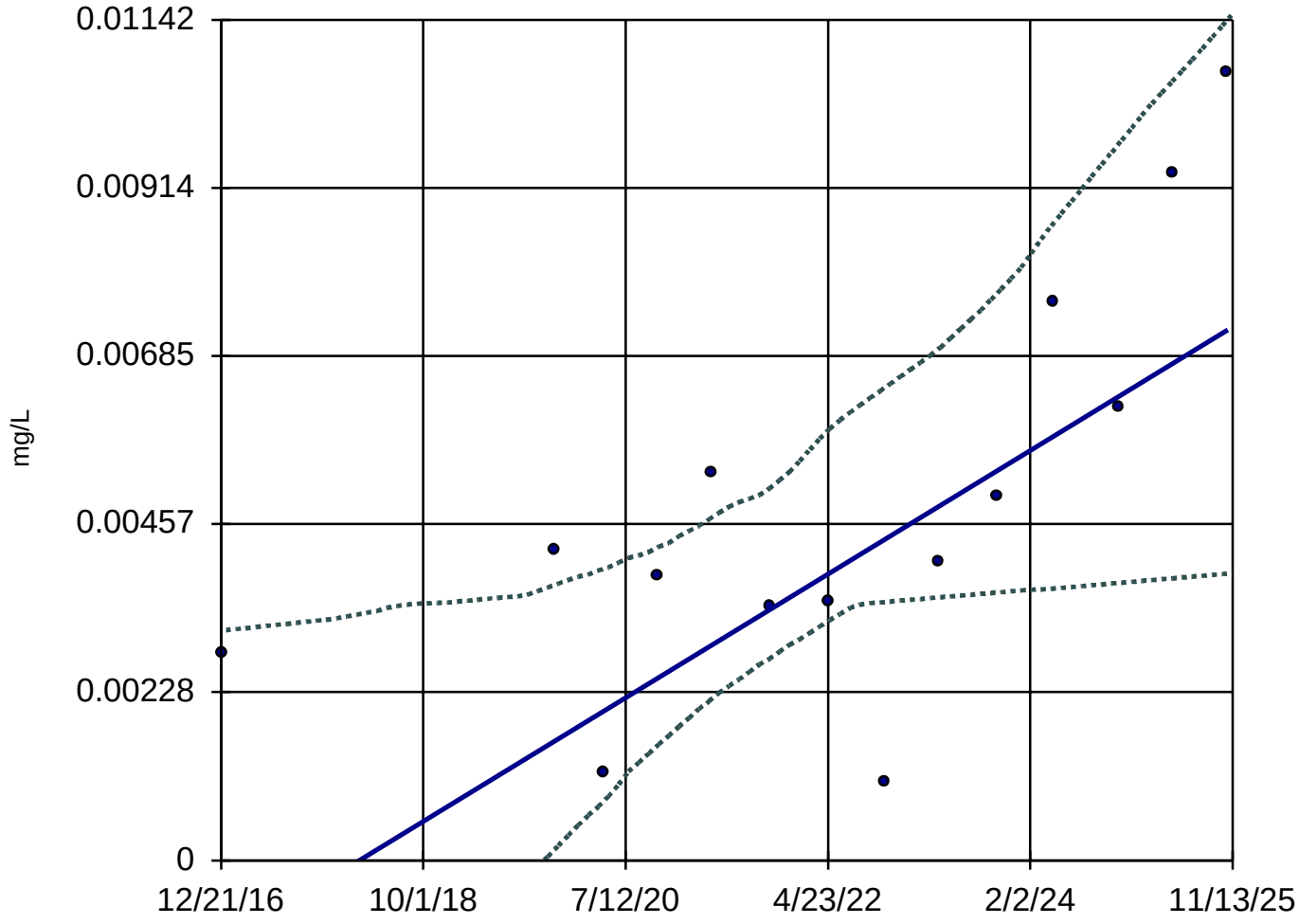
Constituent: Arsenic Analysis Run 2/26/2026 8:47 AM

APS - FAP Client: APS Data: APS Stats Table FAP Remedy Selection

Percent non-detects greater than 50%. Trend analysis cannot be properly assessed.

Sen's Slope and 95% Confidence Band

CH-M-46A



n = 14

Slope = 0.0009437 units per year.

Mann-Kendall statistic = 51
critical = 37

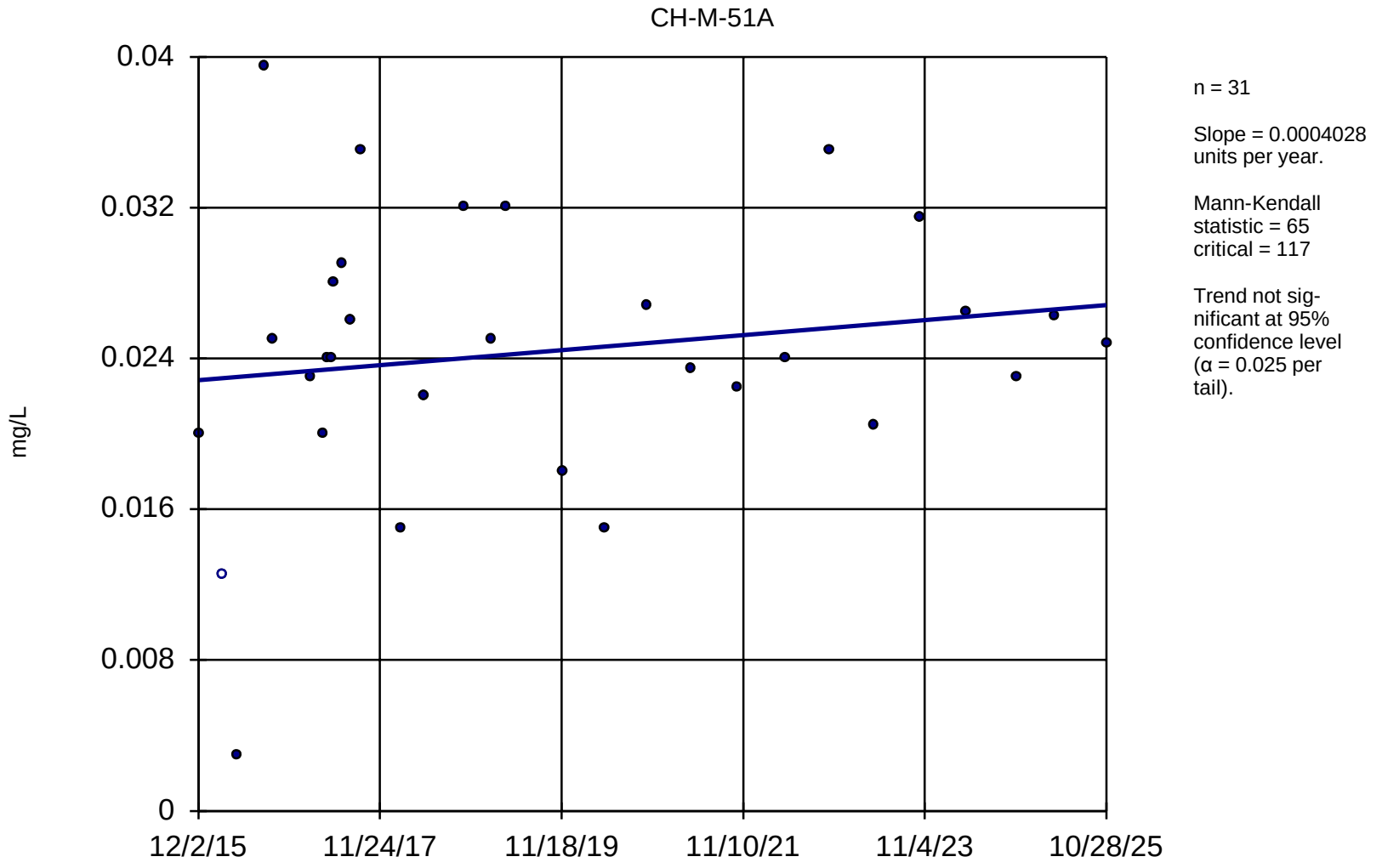
Increasing trend significant at 95% confidence level (α = 0.025 per tail).

Constituent: Arsenic Analysis Run 2/26/2026 8:47 AM

APS - FAP Client: APS Data: APS Stats Table FAP Remedy Selection

Hollow symbols indicate censored values.

Sen's Slope Estimator



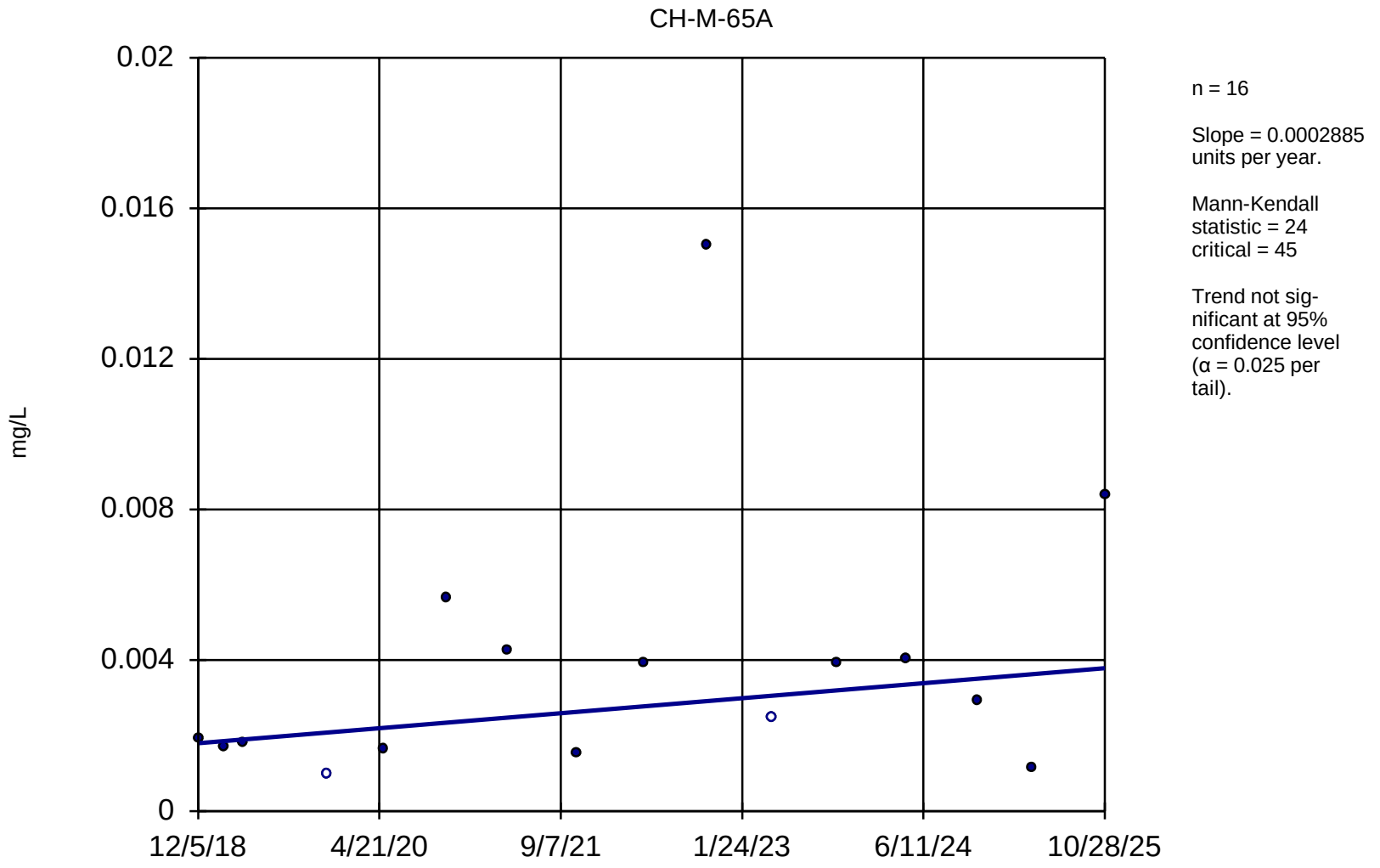
Constituent: Arsenic Analysis Run 2/26/2026 8:47 AM

APS - FAP Client: APS Data: APS Stats Table FAP Remedy Selection

Sanitas™ v.10.1.03a For the statistical analyses of ground water by WSP USA only. UG

Hollow symbols indicate censored values.

Sen's Slope Estimator



Constituent: Arsenic Analysis Run 2/26/2026 8:47 AM

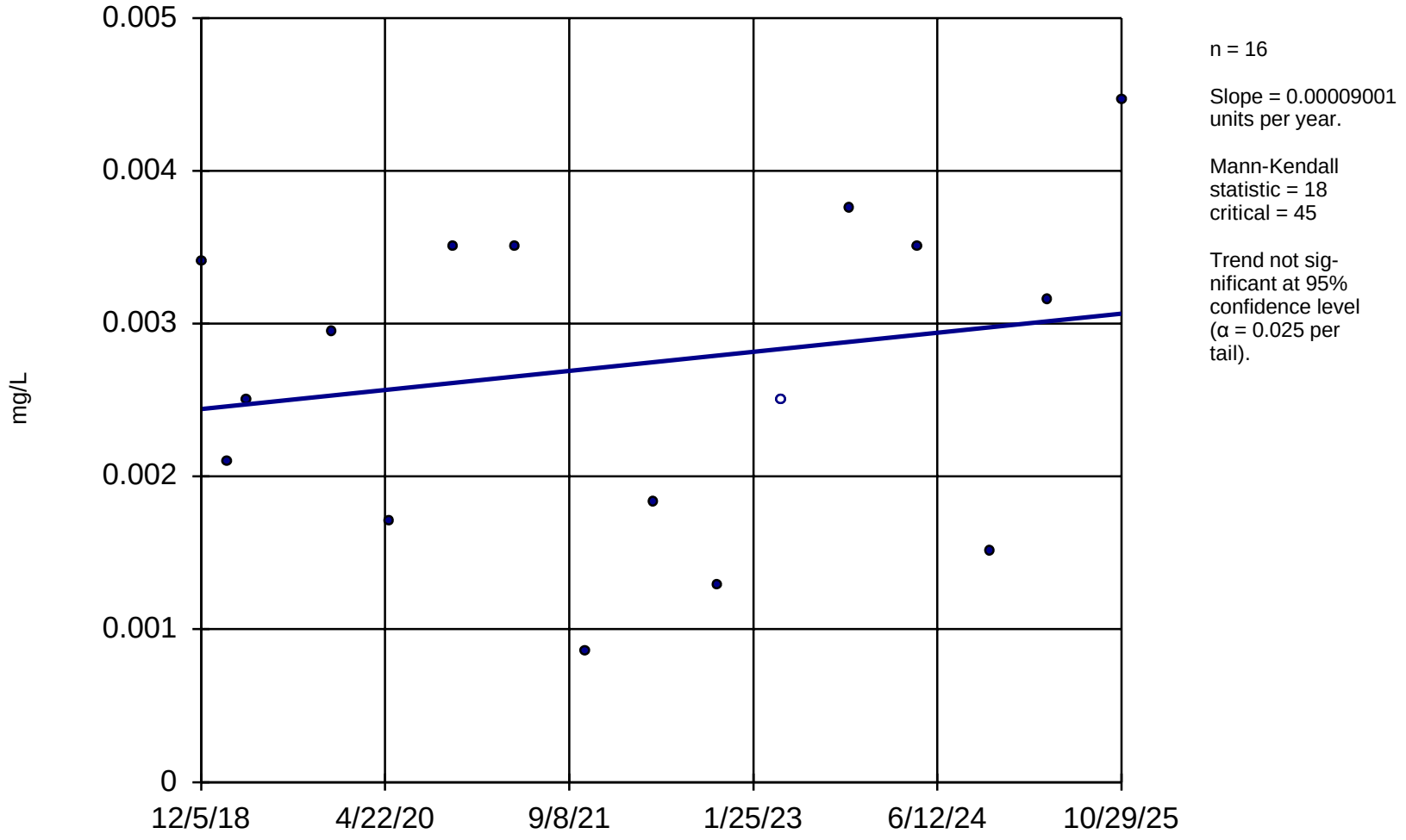
APS - FAP Client: APS Data: APS Stats Table FAP Remedy Selection

Sanitas™ v.10.1.03a For the statistical analyses of ground water by WSP USA only. UG

Hollow symbols indicate censored values.

Sen's Slope Estimator

CH-M-66A



n = 16

Slope = 0.00009001 units per year.

Mann-Kendall statistic = 18
critical = 45

Trend not significant at 95% confidence level (α = 0.025 per tail).

Constituent: Arsenic Analysis Run 2/26/2026 8:47 AM

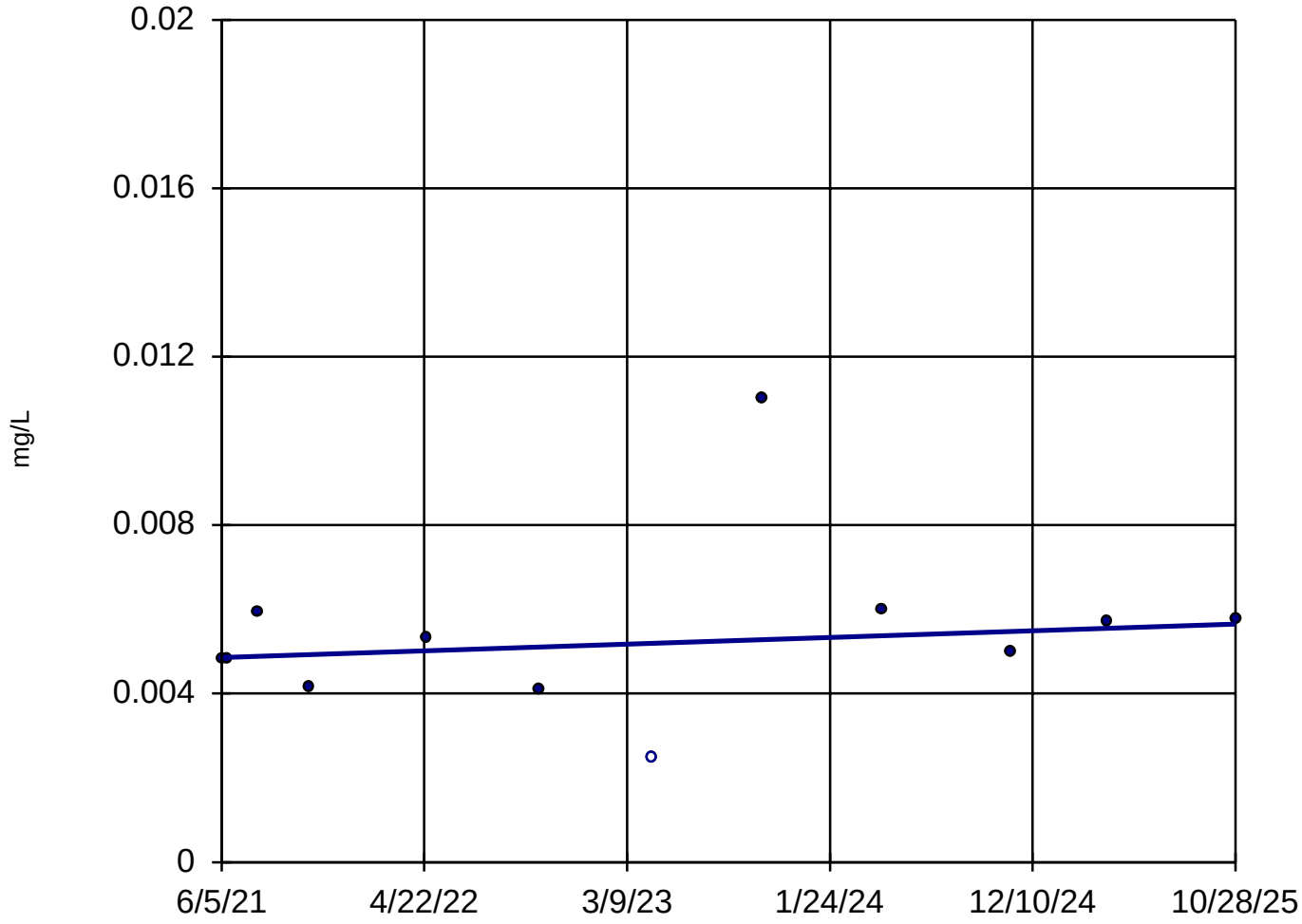
APS - FAP Client: APS Data: APS Stats Table FAP Remedy Selection

Sanitas™ v.10.1.03a For the statistical analyses of ground water by WSP USA only. UG

Hollow symbols indicate censored values.

Sen's Slope Estimator

CH-W-123R



n = 12

Slope = 0.000178 units per year.

Mann-Kendall statistic = 13
critical = 30

Trend not significant at 95% confidence level (α = 0.025 per tail).

Constituent: Arsenic Analysis Run 2/26/2026 8:47 AM

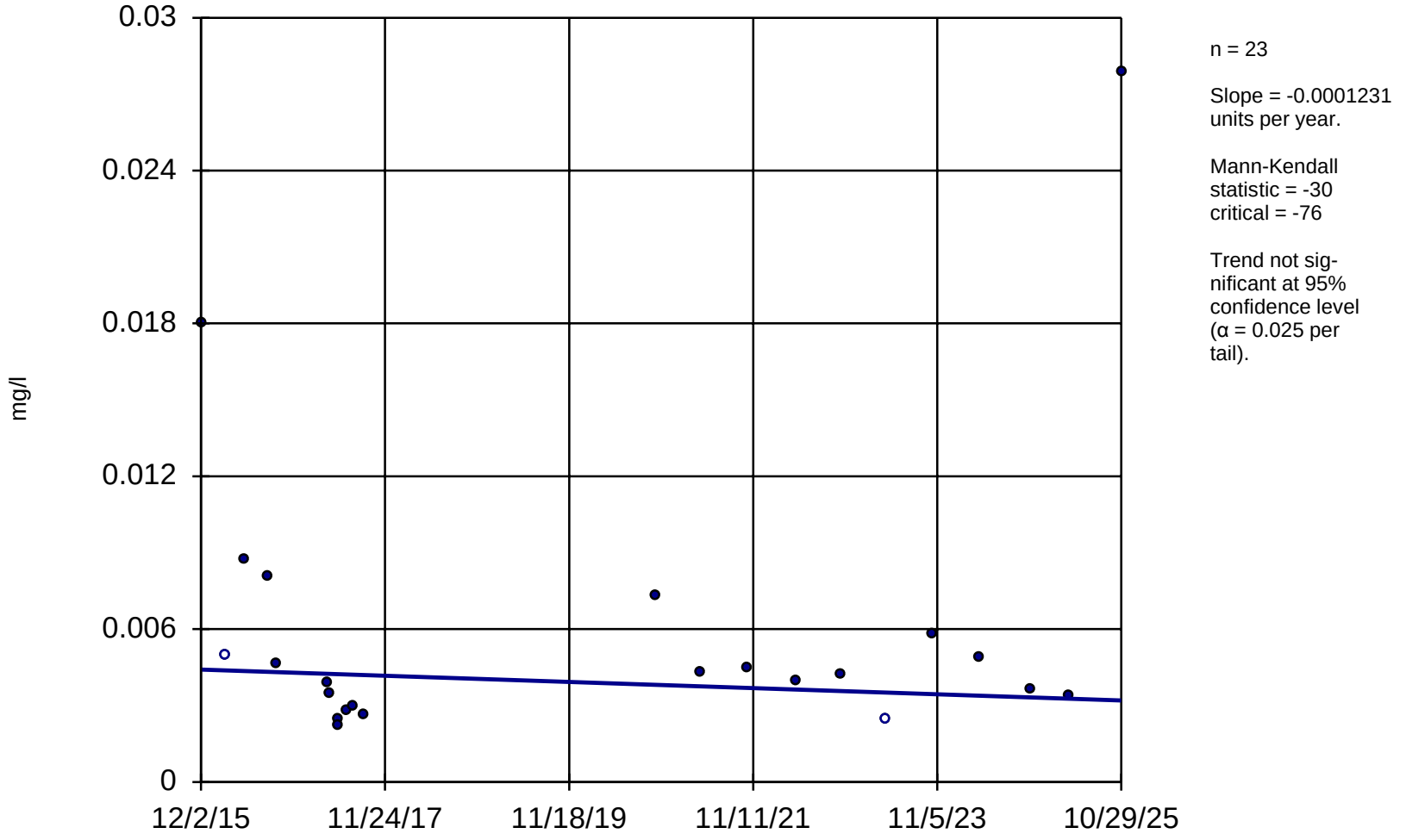
APS - FAP Client: APS Data: APS Stats Table FAP Remedy Selection

Sanitas™ v.10.1.06 For the statistical analyses of ground water by WSP USA only. EPA

Hollow symbols indicate censored values.

Sen's Slope Estimator

CH-W-125



n = 23

Slope = -0.0001231 units per year.

Mann-Kendall statistic = -30
critical = -76

Trend not significant at 95% confidence level (α = 0.025 per tail).

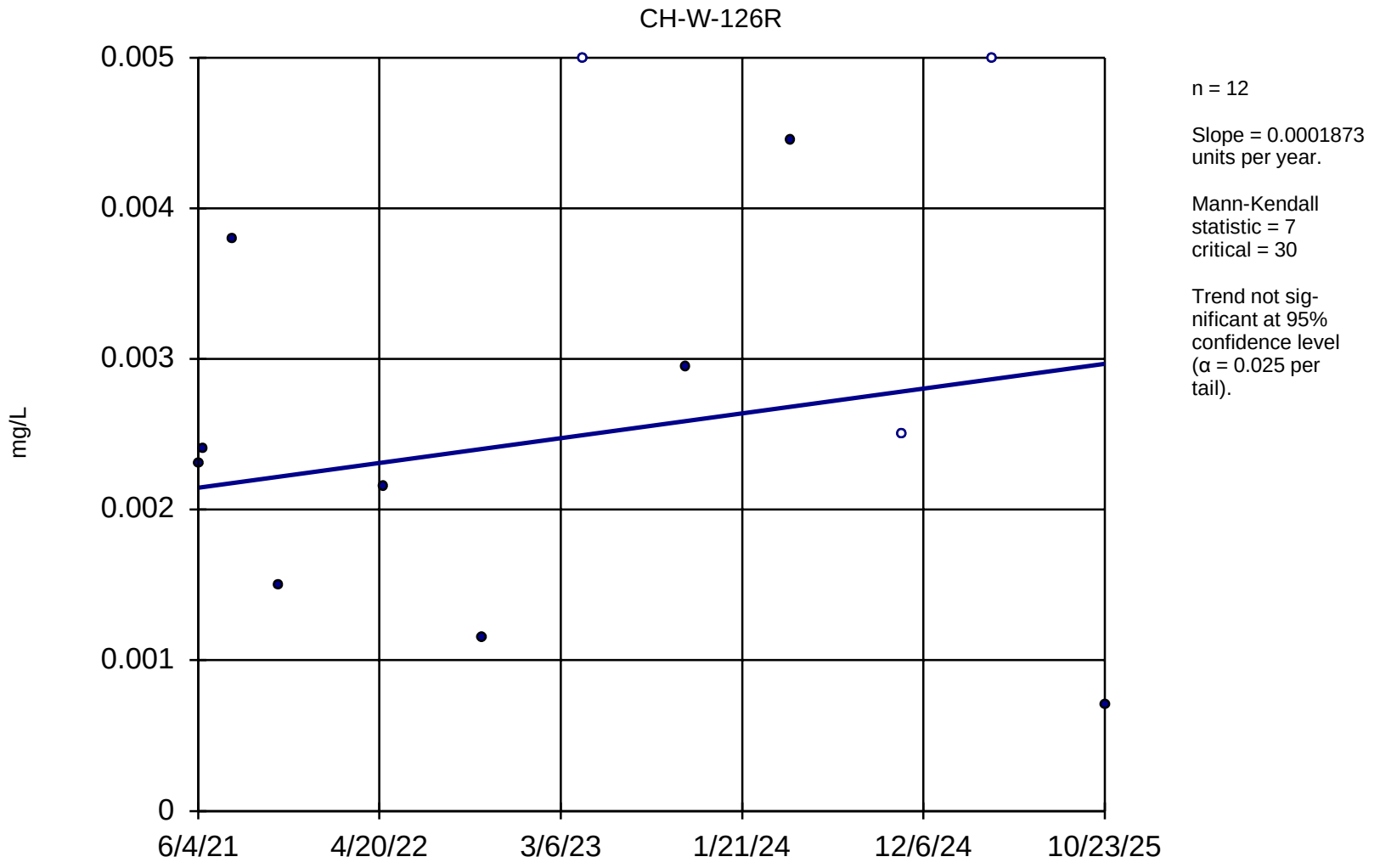
Constituent: Arsenic Analysis Run 5/26/2026 4:37 PM

APS - FAP Client: APS Data: APS Stats Table FAP Remedy Selection - MW-125

Sanitas™ v.10.1.03a For the statistical analyses of ground water by WSP USA only. UG

Hollow symbols indicate censored values.

Sen's Slope Estimator



Constituent: Arsenic Analysis Run 2/26/2026 8:47 AM

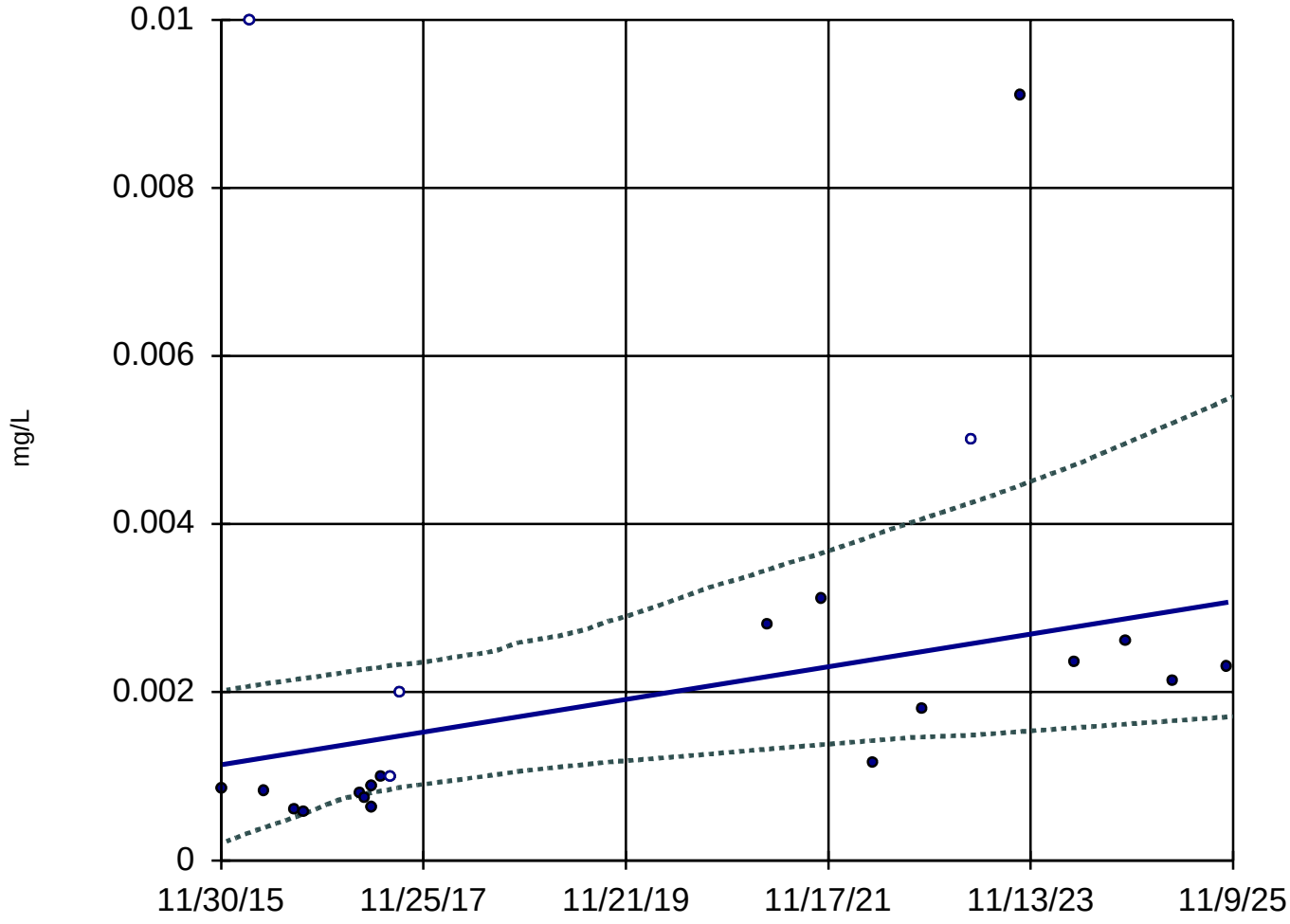
APS - FAP Client: APS Data: APS Stats Table FAP Remedy Selection

Sanitas™ v.10.1.03a For the statistical analyses of ground water by WSP USA only. UG

Hollow symbols indicate censored values.

Sen's Slope and 95% Confidence Band

M-63A



n = 22

Slope = 0.0001949 units per year.

Mann-Kendall statistic = 108
critical = 71

Increasing trend significant at 95% confidence level (α = 0.025 per tail).

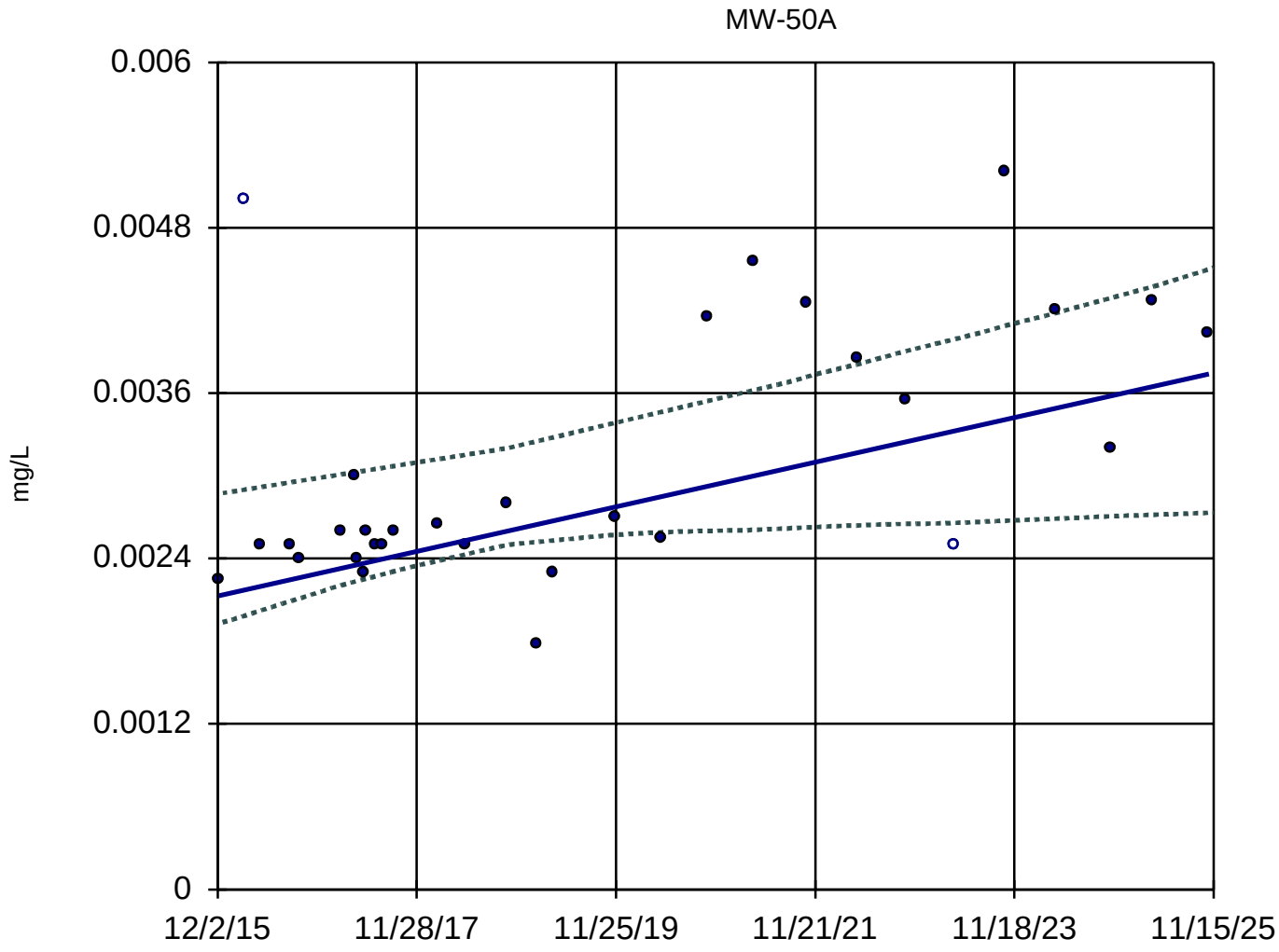
Constituent: Arsenic Analysis Run 2/26/2026 8:47 AM

APS - FAP Client: APS Data: APS Stats Table FAP Remedy Selection

Sanitas™ v.10.1.03a For the statistical analyses of ground water by WSP USA only. UG

Hollow symbols indicate censored values.

Sen's Slope and 95% Confidence Band



n = 31

Slope = 0.0001623 units per year.

Mann-Kendall statistic = 183
critical = 117

Increasing trend significant at 95% confidence level (α = 0.025 per tail).

Constituent: Arsenic Analysis Run 2/26/2026 8:47 AM

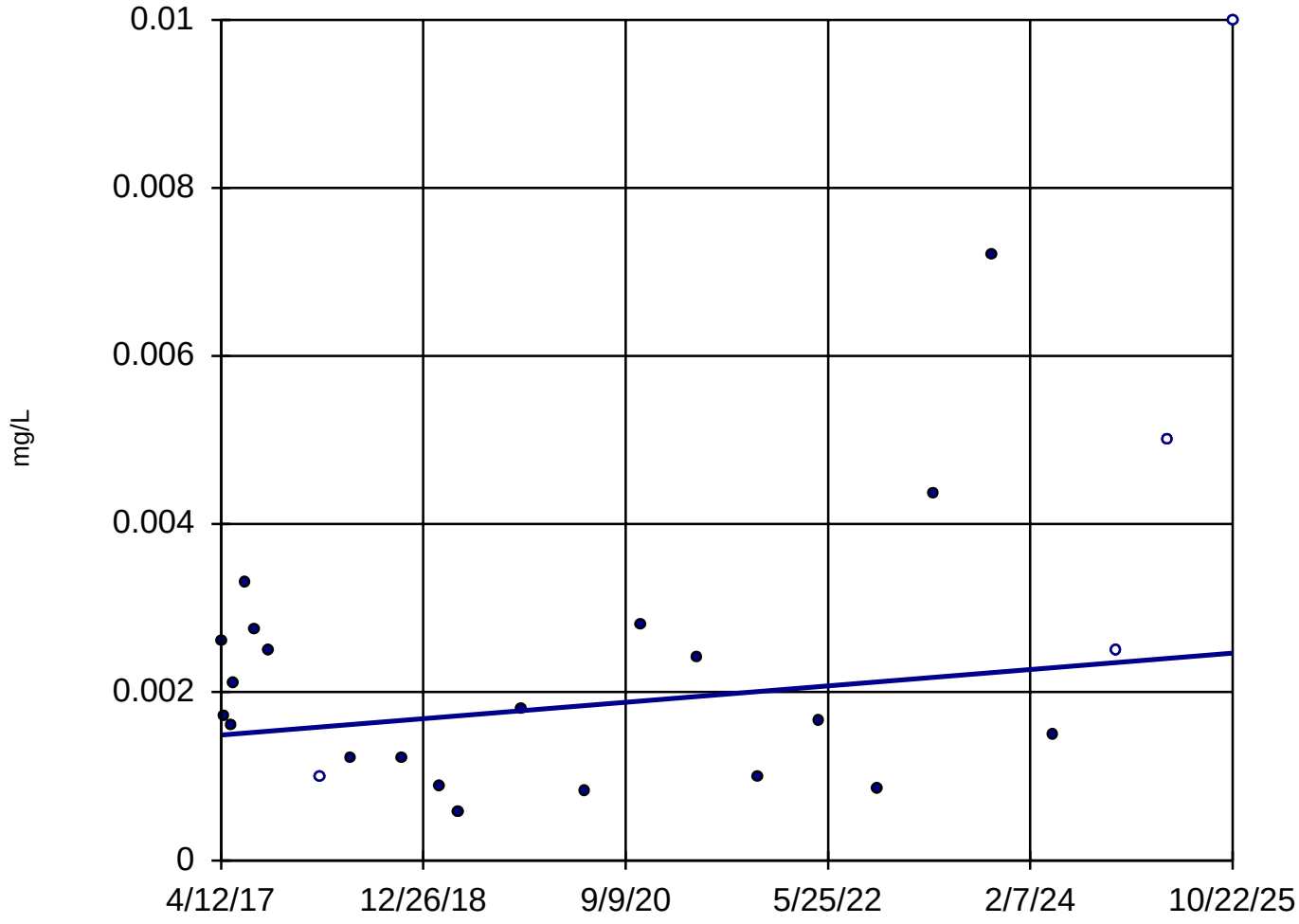
APS - FAP Client: APS Data: APS Stats Table FAP Remedy Selection

Sanitas™ v.10.1.03a For the statistical analyses of ground water by WSP USA only. UG

Hollow symbols indicate censored values.

Sen's Slope Estimator

CH-M-64A (bg)



n = 26

Slope = 0.0001142 units per year.

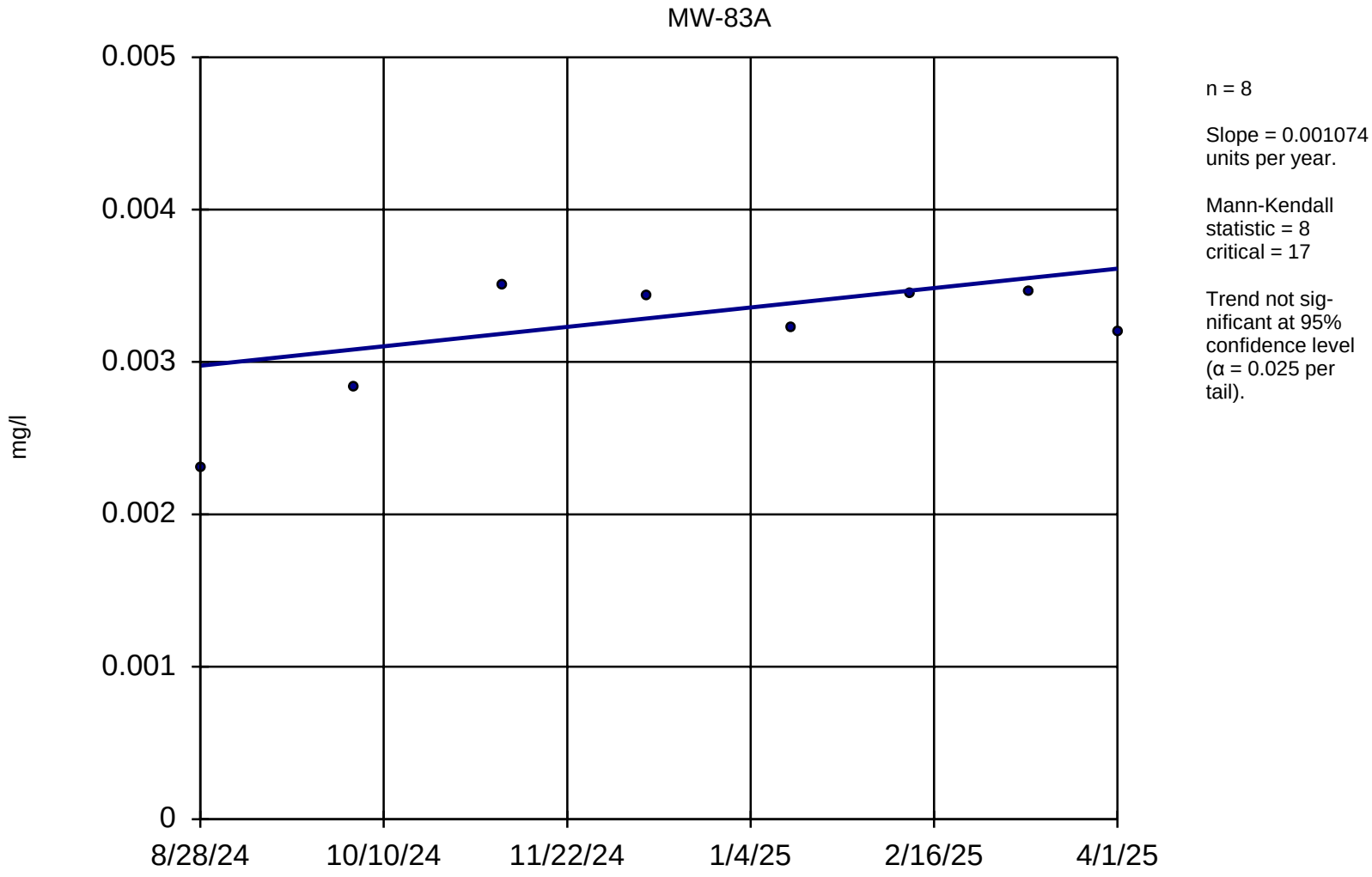
Mann-Kendall statistic = 39
critical = 90

Trend not significant at 95% confidence level (α = 0.025 per tail).

Constituent: Arsenic Analysis Run 2/26/2026 8:47 AM

APS - FAP Client: APS Data: APS Stats Table FAP Remedy Selection

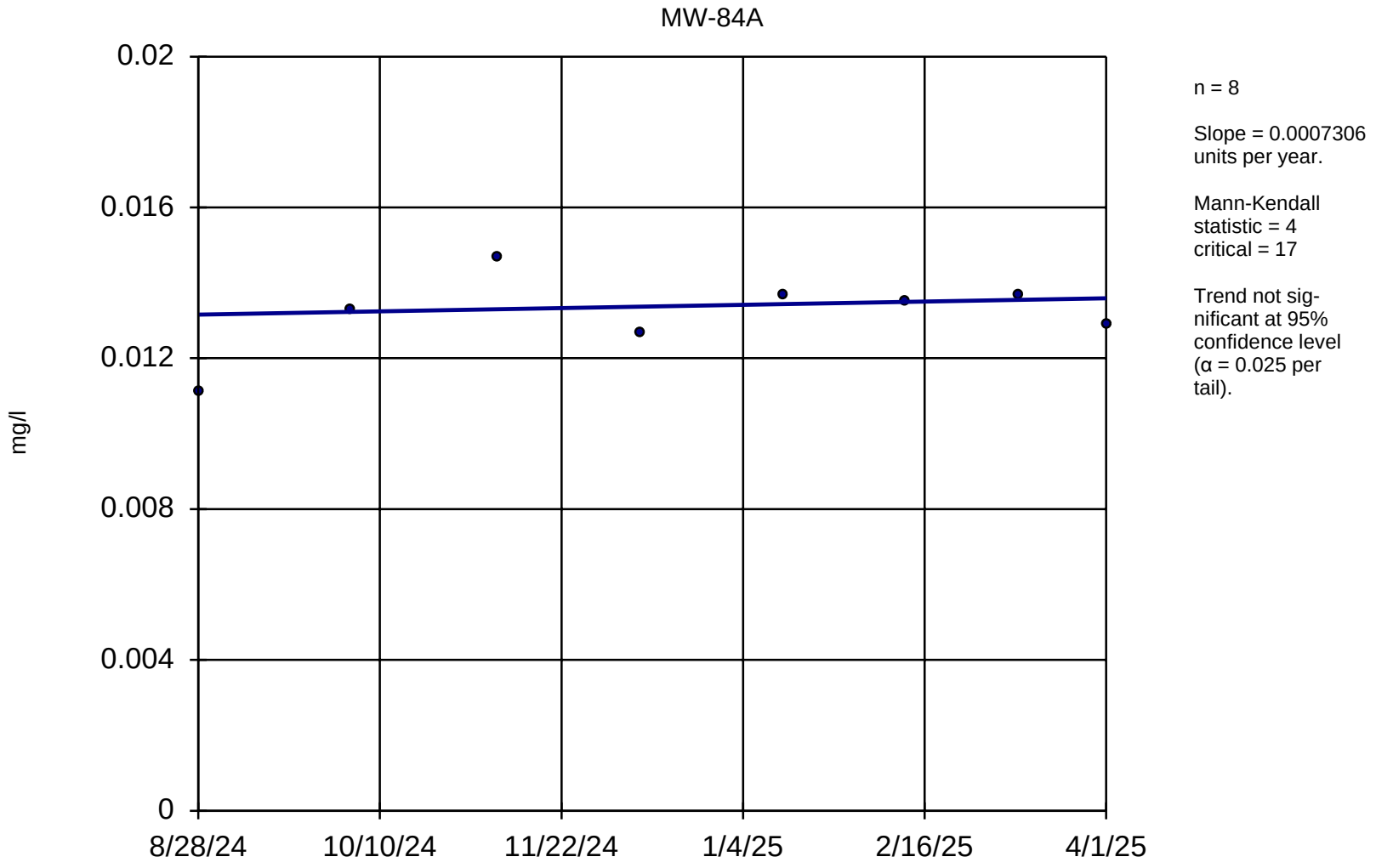
Sen's Slope Estimator



Constituent: Arsenic Analysis Run 5/5/2026 11:36 AM

Cholla - Evap Wells Client: APS Data: APS Trend Plots - Evap Wells

Sen's Slope Estimator



Constituent: Arsenic Analysis Run 5/5/2026 11:36 AM

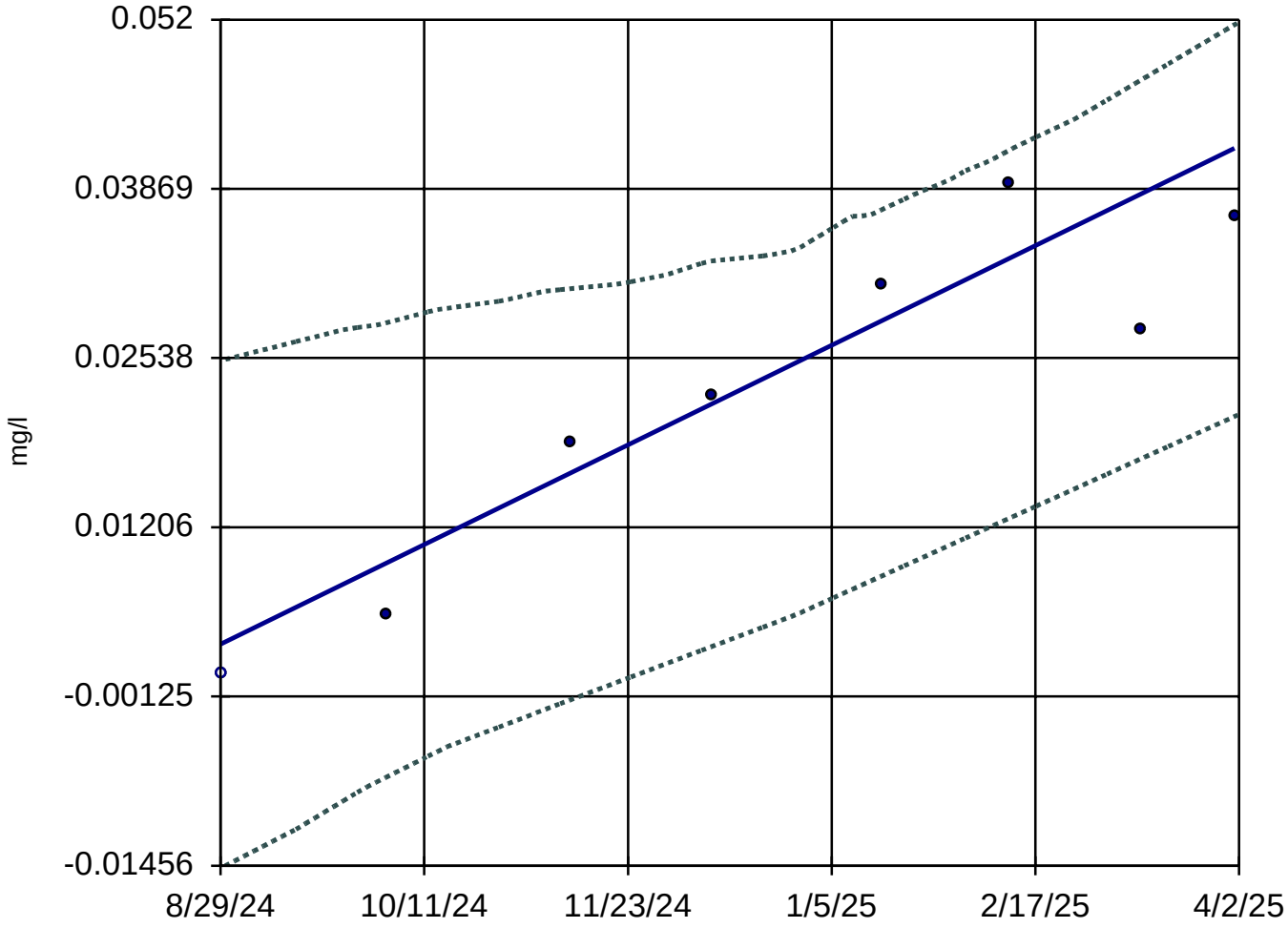
Cholla - Evap Wells Client: APS Data: APS Trend Plots - Evap Wells

Sanitas™ v.10.1.06 For the statistical analyses of ground water by WSP USA only. EPA

Hollow symbols indicate censored values.

Sen's Slope and 95% Confidence Band

MW-85C



n = 8

Slope = 0.06623 units per year.

Mann-Kendall statistic = 22
critical = 17

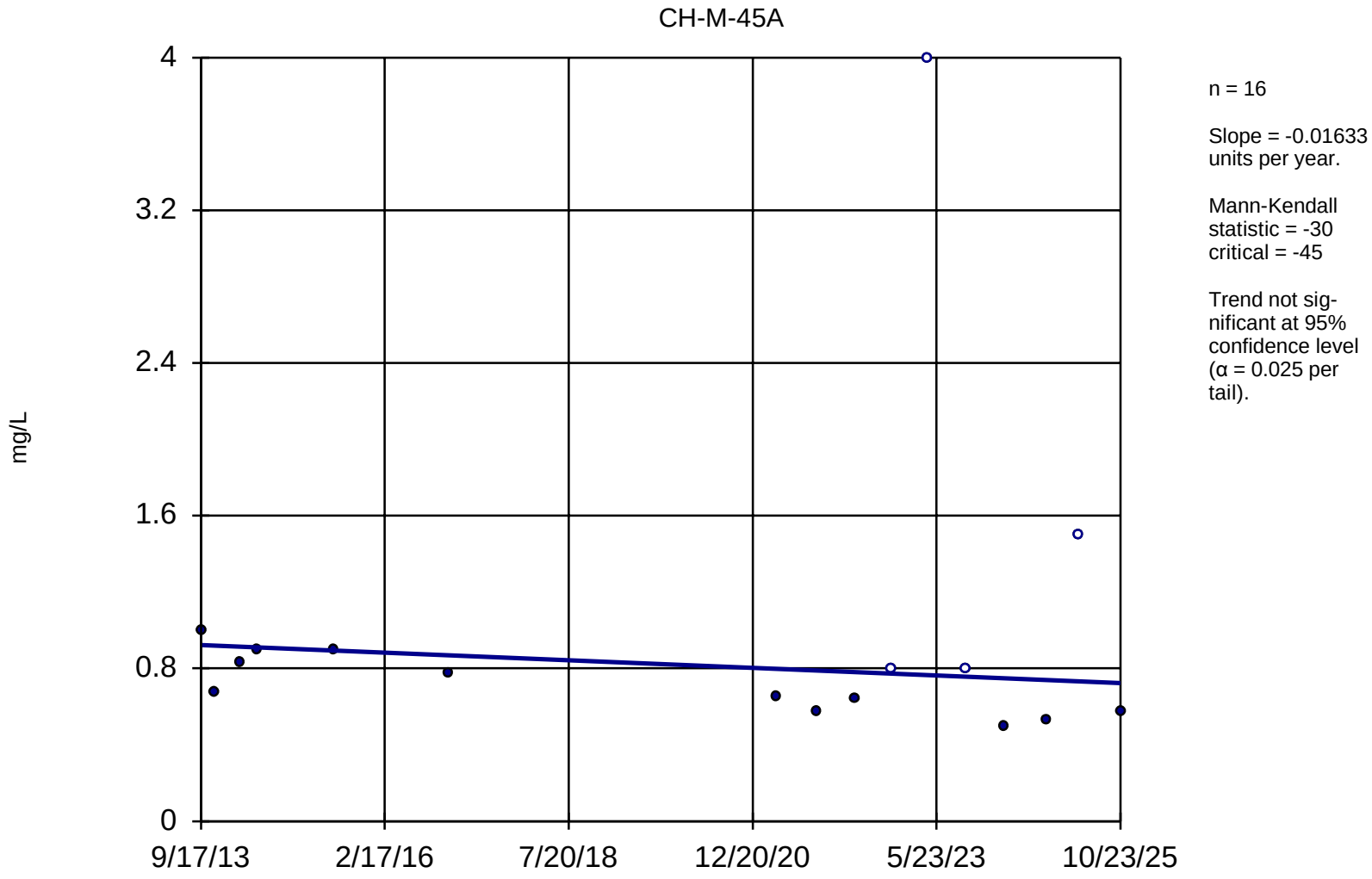
Increasing trend significant at 95% confidence level (α = 0.025 per tail).

Constituent: Arsenic Analysis Run 5/5/2026 11:36 AM

Cholla - Evap Wells Client: APS Data: APS Trend Plots - Evap Wells

Hollow symbols indicate censored values.

Sen's Slope Estimator



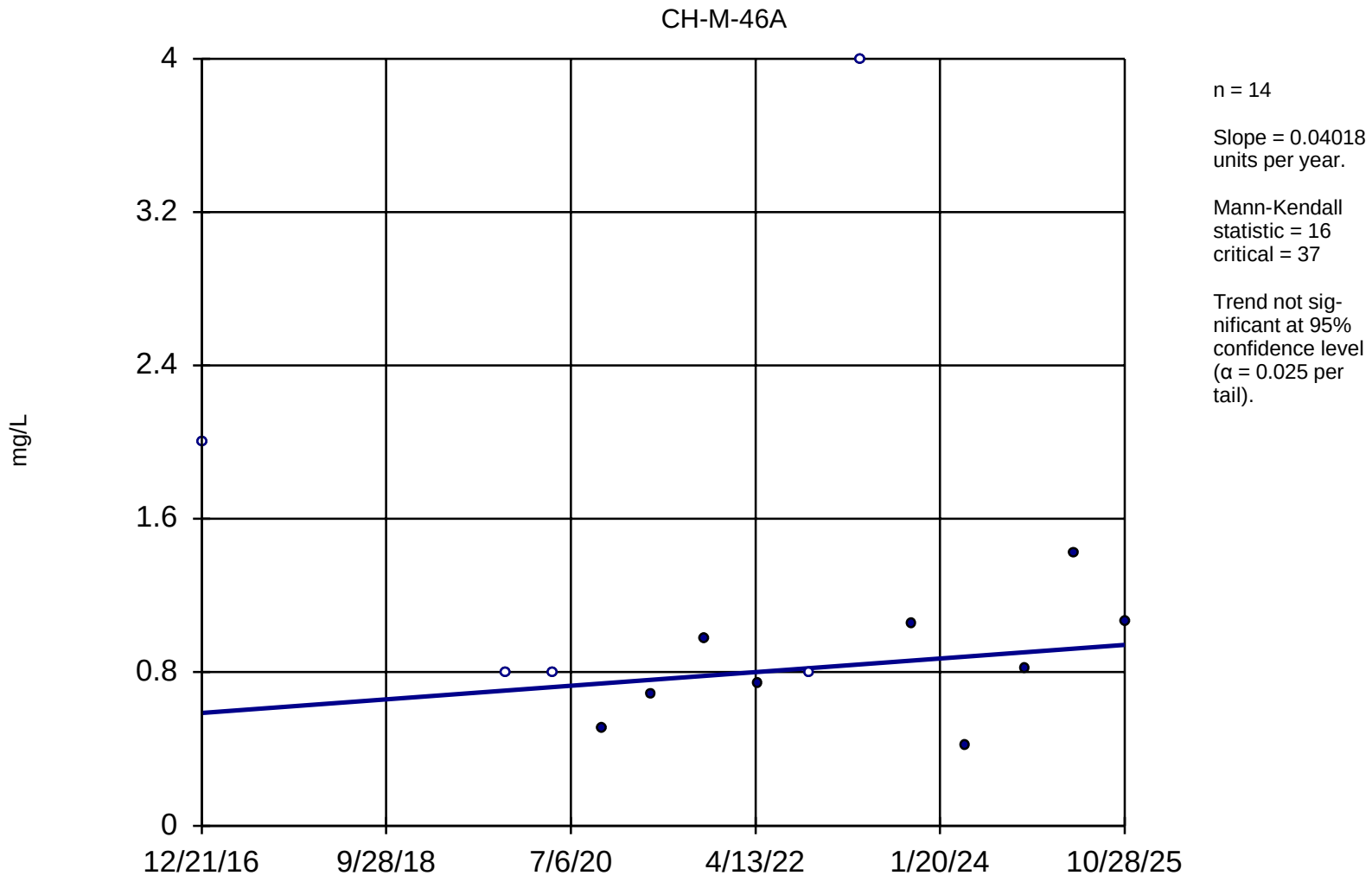
Constituent: Fluoride Analysis Run 2/26/2026 8:48 AM

APS - FAP Client: APS Data: APS Stats Table FAP Remedy Selection

Sanitas™ v.10.1.03a For the statistical analyses of ground water by WSP USA only. UG

Hollow symbols indicate censored values.

Sen's Slope Estimator



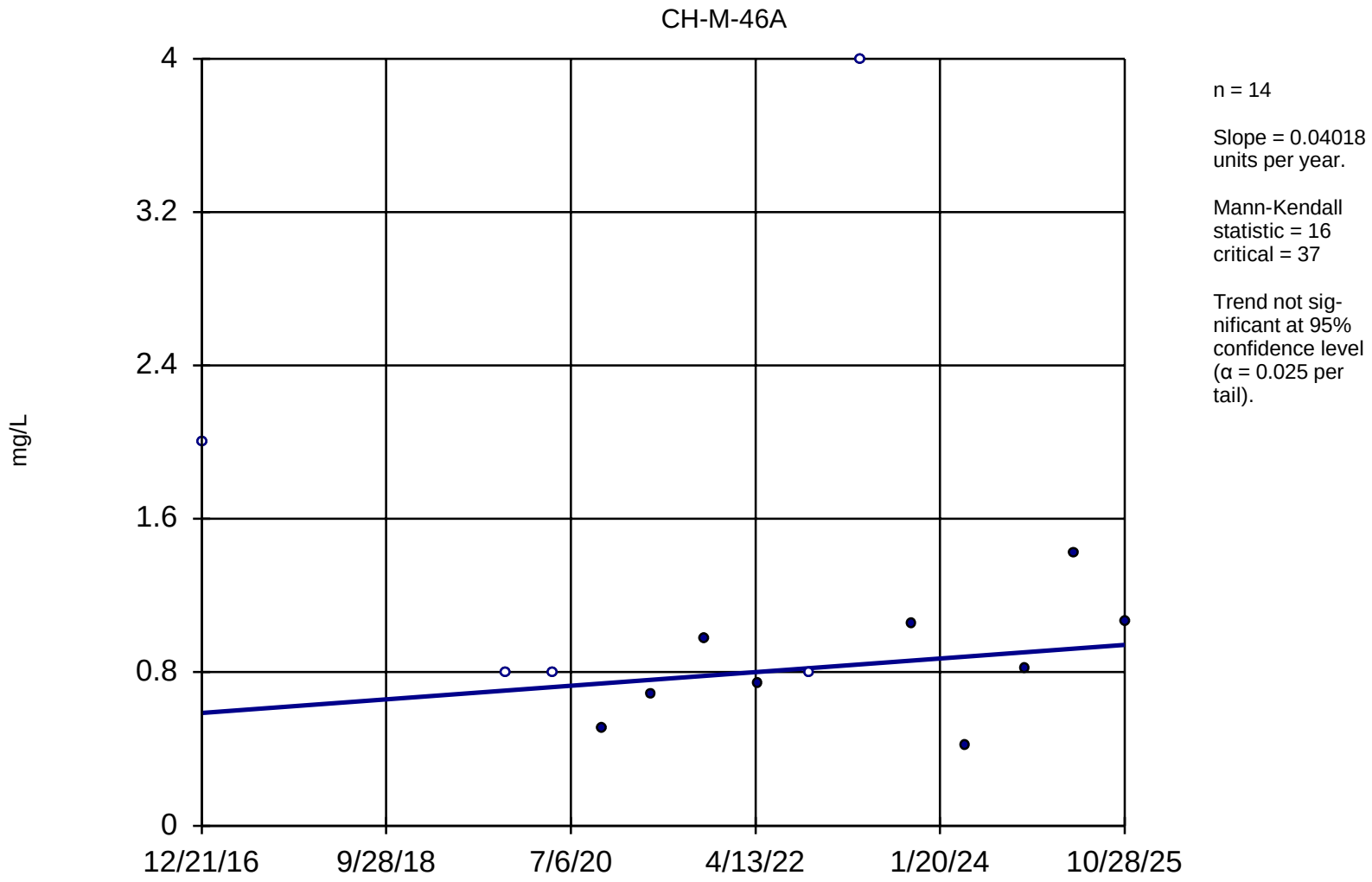
Constituent: Fluoride Analysis Run 2/26/2026 8:48 AM

APS - FAP Client: APS Data: APS Stats Table FAP Remedy Selection

Sanitas™ v.10.1.03a For the statistical analyses of ground water by WSP USA only. UG

Hollow symbols indicate censored values.

Sen's Slope Estimator

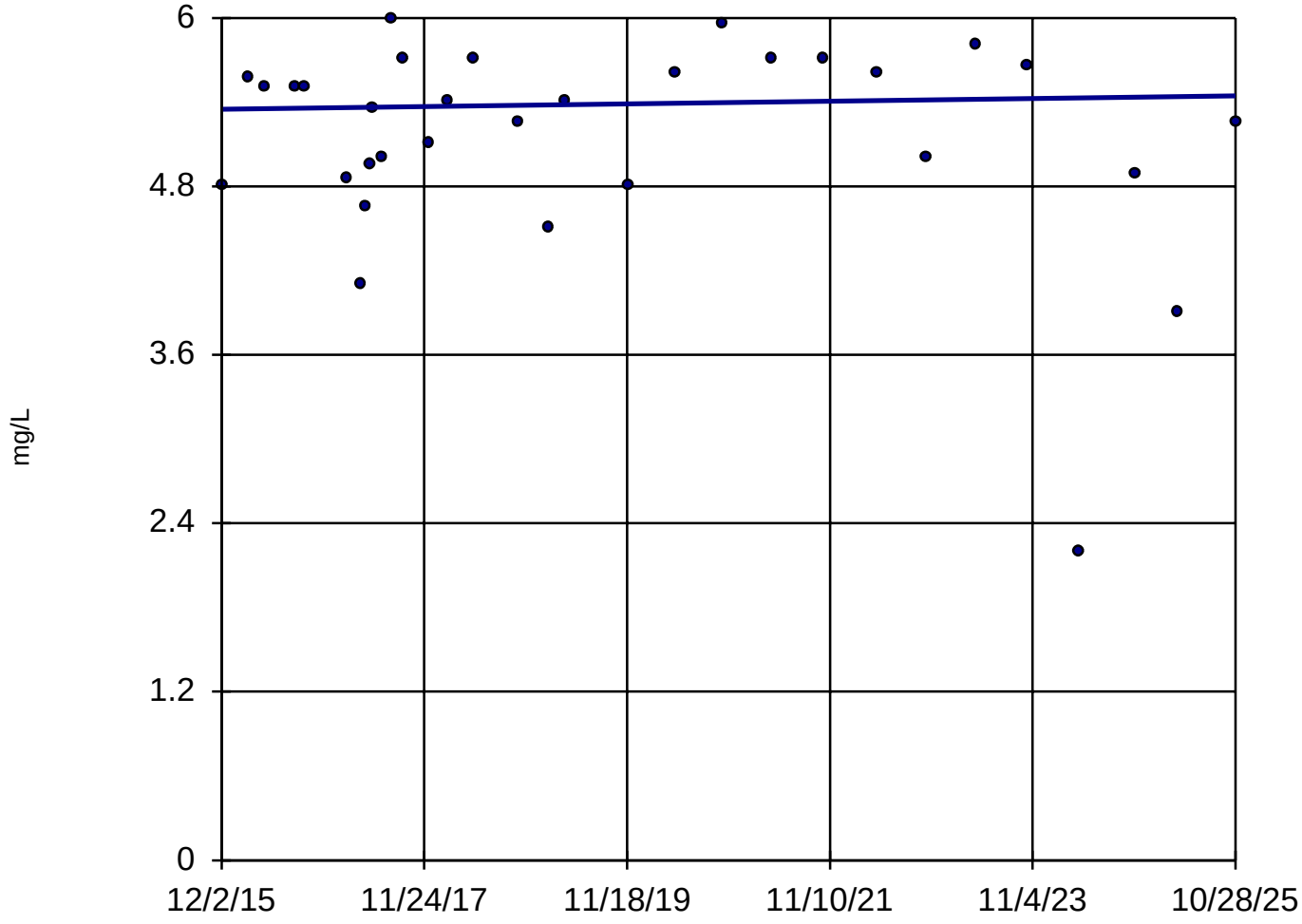


Constituent: Fluoride Analysis Run 2/26/2026 8:48 AM

APS - FAP Client: APS Data: APS Stats Table FAP Remedy Selection

Sen's Slope Estimator

CH-M-51A



n = 32

Slope = 0.009529 units per year.

Mann-Kendall statistic = 22
critical = 123

Trend not significant at 95% confidence level (α = 0.025 per tail).

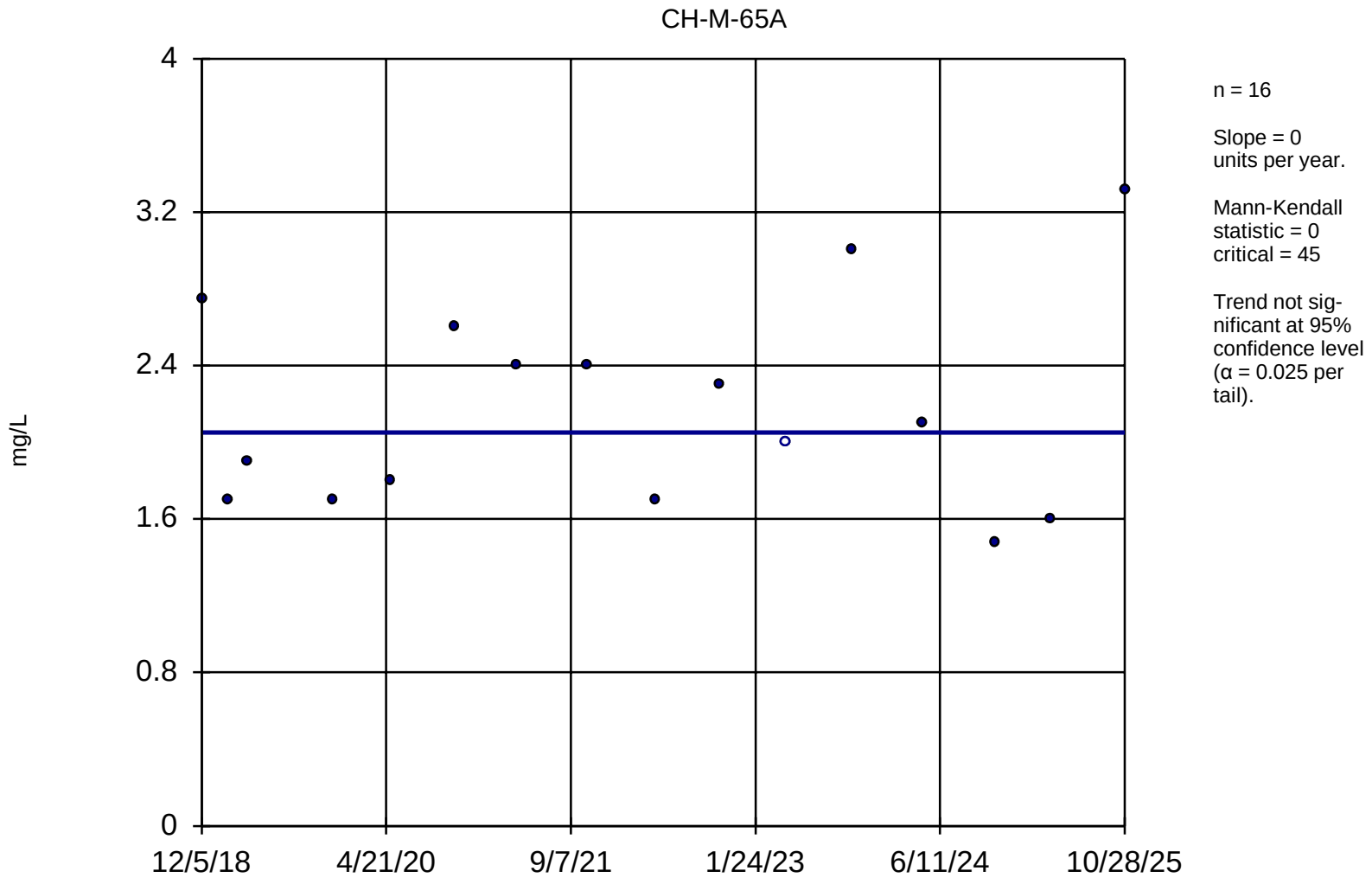
Constituent: Fluoride Analysis Run 2/26/2026 8:48 AM

APS - FAP Client: APS Data: APS Stats Table FAP Remedy Selection

Sanitas™ v.10.1.03a For the statistical analyses of ground water by WSP USA only. UG

Hollow symbols indicate censored values.

Sen's Slope Estimator



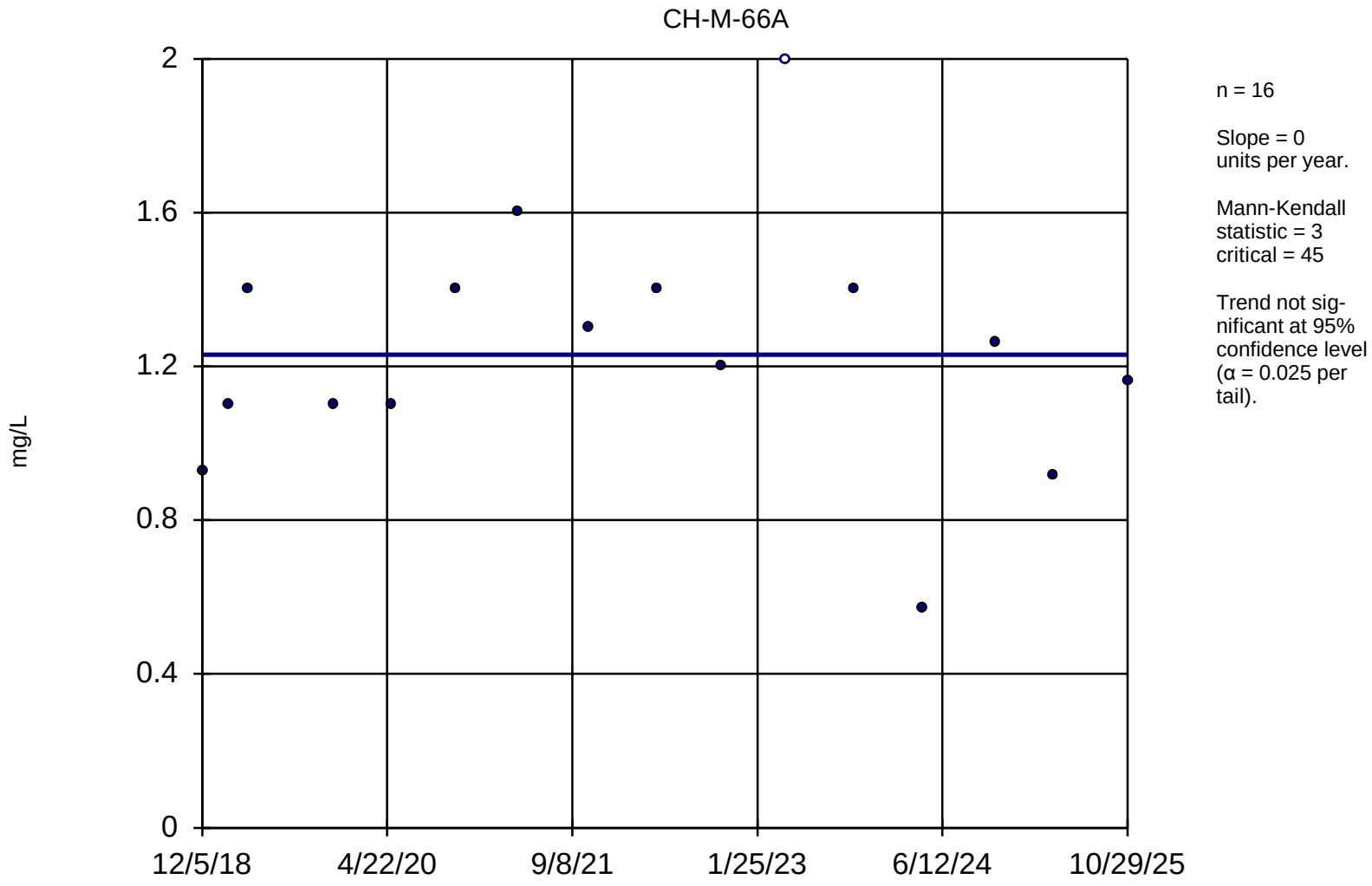
Constituent: Fluoride Analysis Run 2/26/2026 8:48 AM

APS - FAP Client: APS Data: APS Stats Table FAP Remedy Selection

Sanitas™ v.10.1.03a For the statistical analyses of ground water by WSP USA only. UG

Hollow symbols indicate censored values.

Sen's Slope Estimator

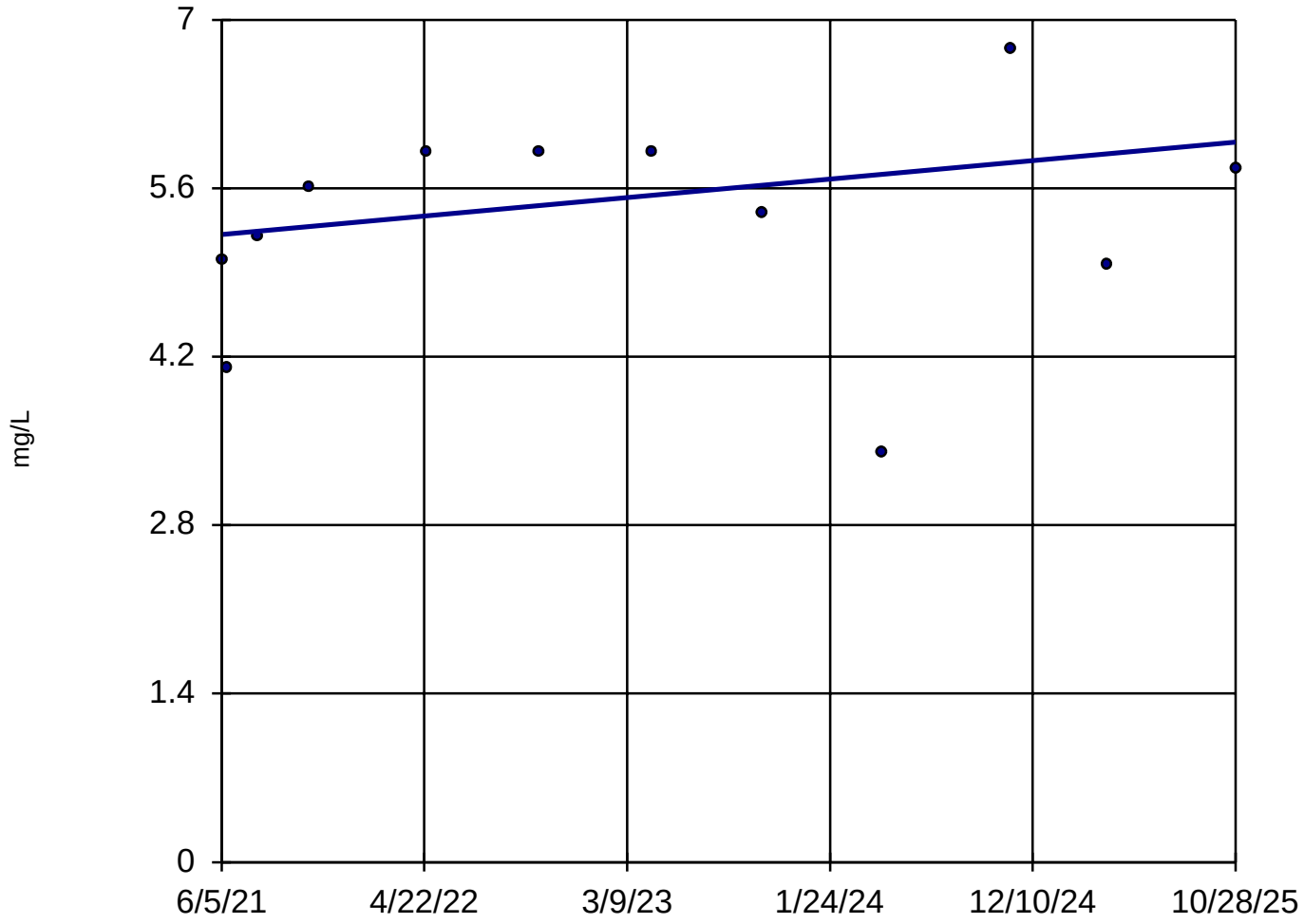


Constituent: Fluoride Analysis Run 2/26/2026 8:48 AM

APS - FAP Client: APS Data: APS Stats Table FAP Remedy Selection

Sen's Slope Estimator

CH-W-123R



n = 12

Slope = 0.1742 units per year.

Mann-Kendall statistic = 13
critical = 30

Trend not significant at 95% confidence level (α = 0.025 per tail).

Constituent: Fluoride Analysis Run 2/26/2026 8:48 AM

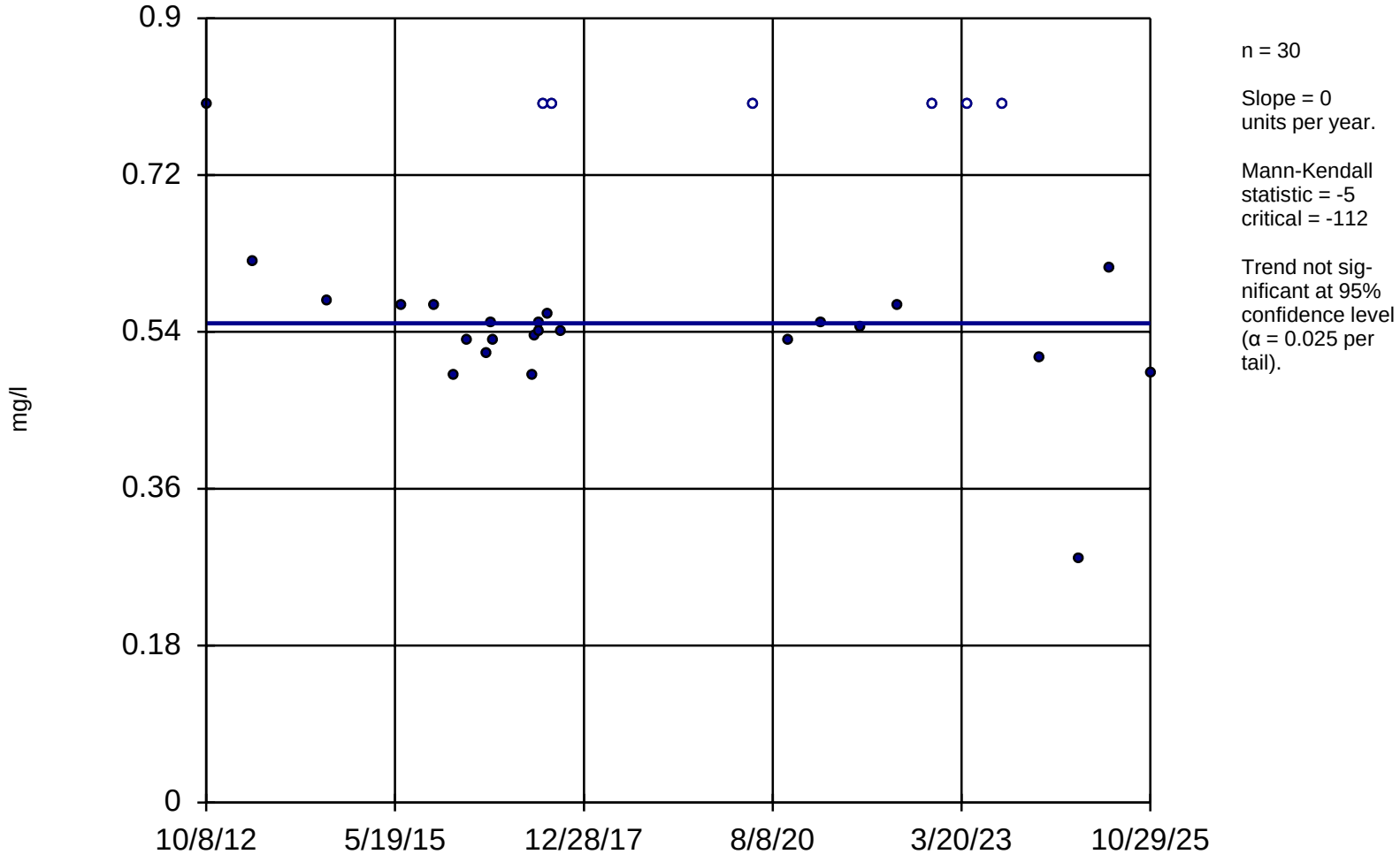
APS - FAP Client: APS Data: APS Stats Table FAP Remedy Selection

Sanitas™ v.10.1.06 For the statistical analyses of ground water by WSP USA only. EPA

Hollow symbols indicate censored values.

Sen's Slope Estimator

CH-W-125



n = 30

Slope = 0
units per year.

Mann-Kendall
statistic = -5
critical = -112

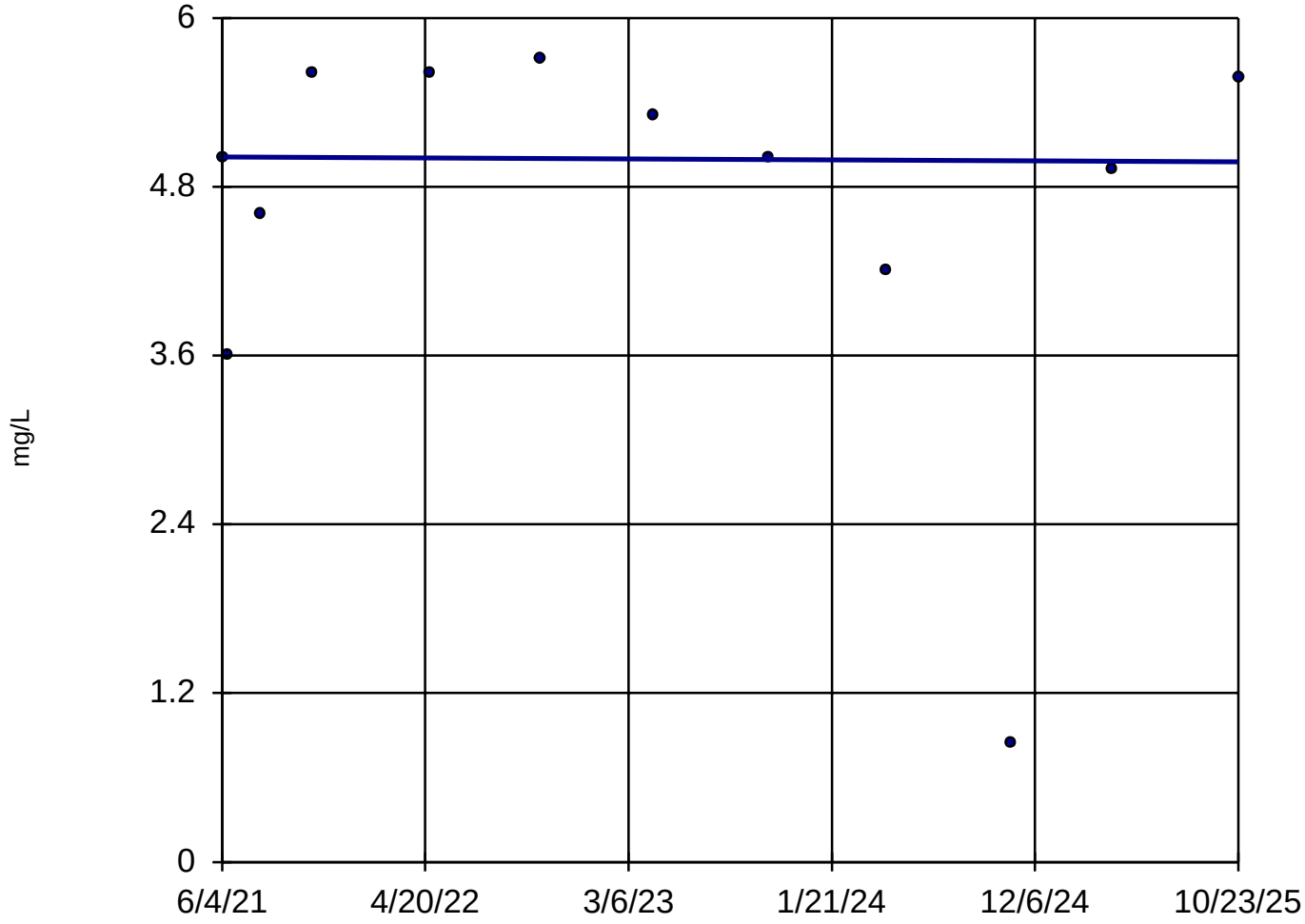
Trend not sig-
nificant at 95%
confidence level
(α = 0.025 per
tail).

Constituent: Fluoride Analysis Run 5/26/2026 4:37 PM

APS - FAP Client: APS Data: APS Stats Table FAP Remedy Selection - MW-125

Sen's Slope Estimator

CH-W-126R



n = 12

Slope = -0.008042 units per year.

Mann-Kendall statistic = -4
critical = -30

Trend not significant at 95% confidence level (α = 0.025 per tail).

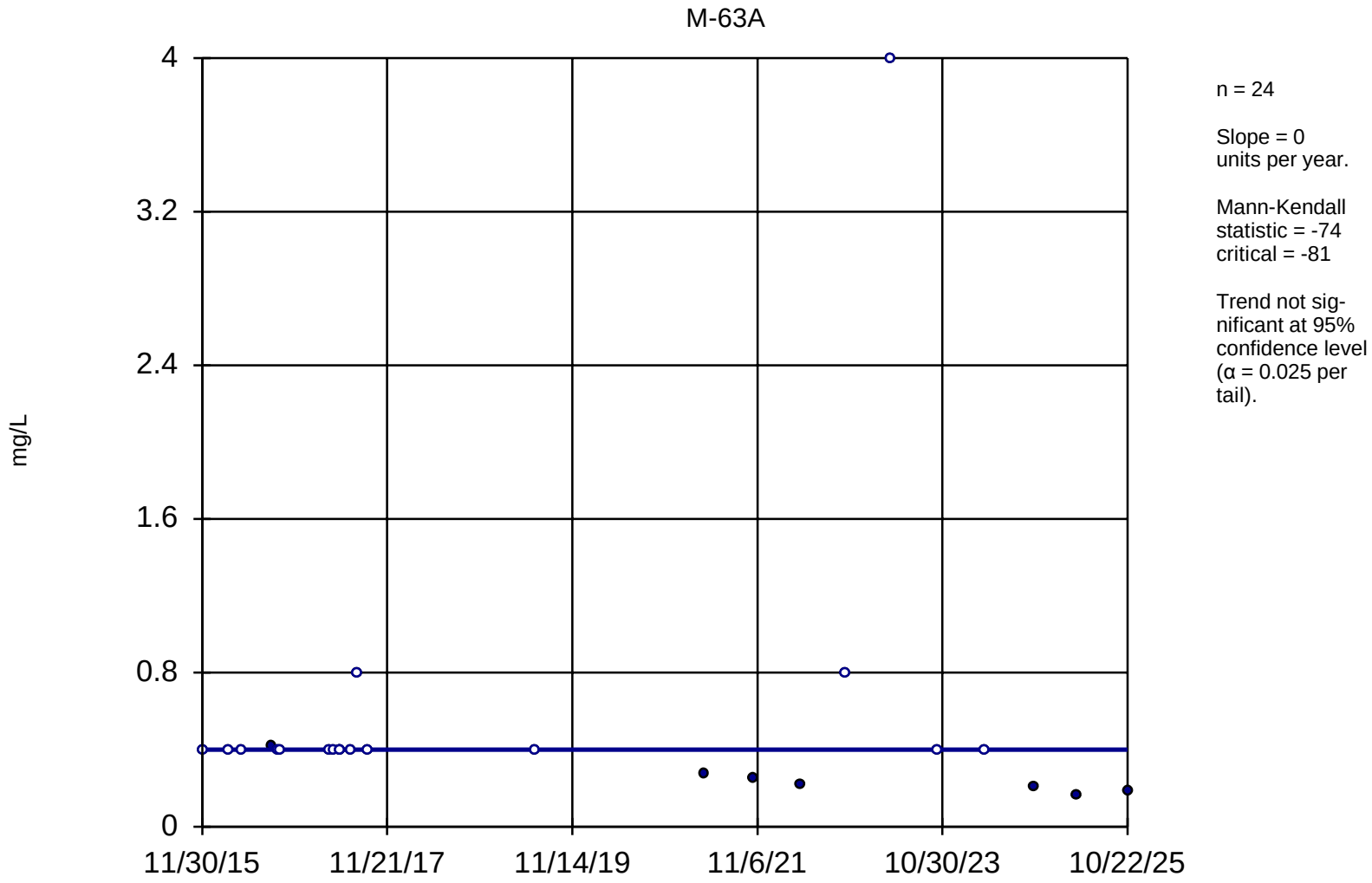
Constituent: Fluoride Analysis Run 2/26/2026 8:48 AM

APS - FAP Client: APS Data: APS Stats Table FAP Remedy Selection

Sanitas™ v.10.1.03a For the statistical analyses of ground water by WSP USA only. UG

Hollow symbols indicate censored values.

Sen's Slope Estimator

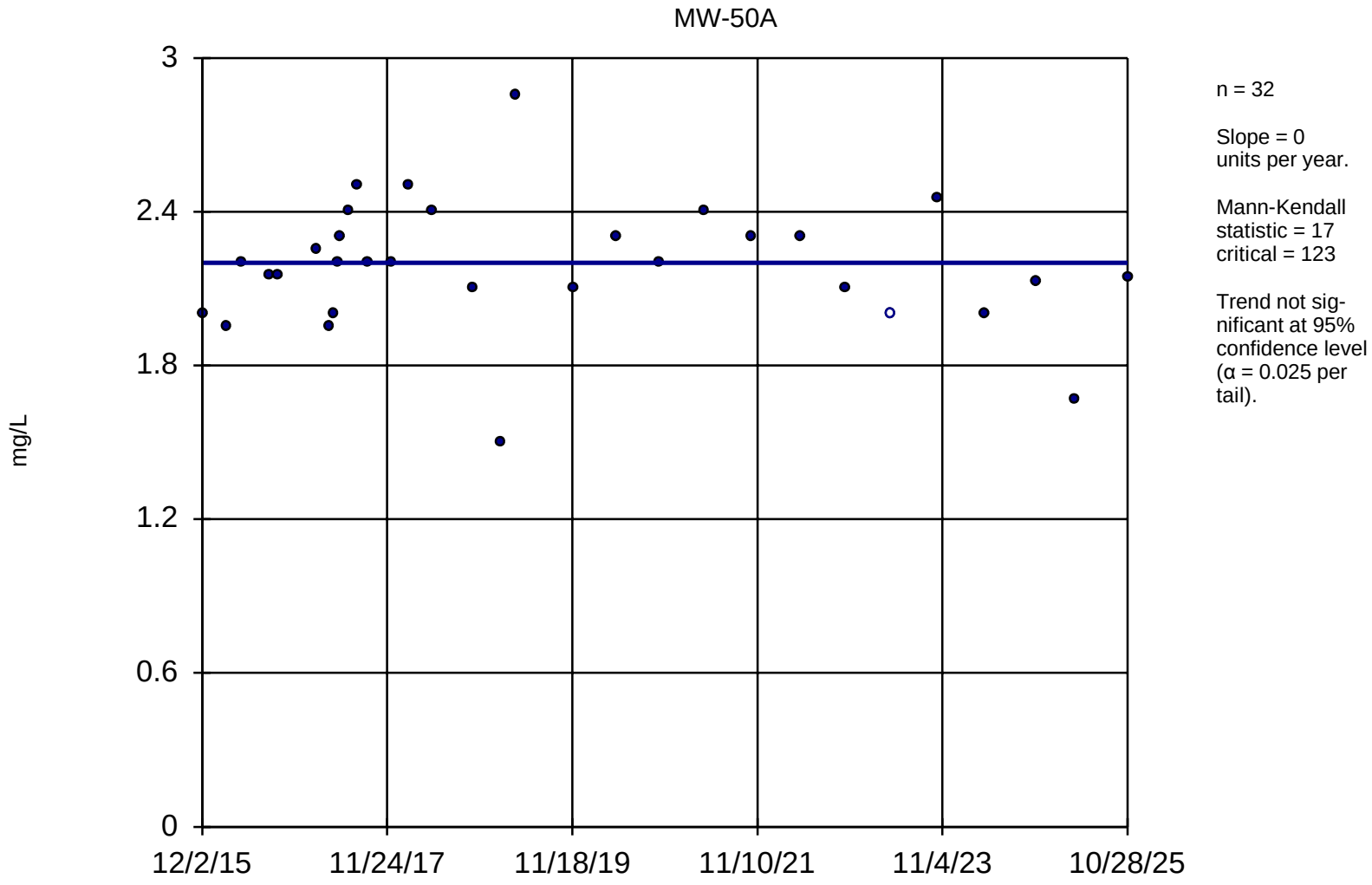


Constituent: Fluoride Analysis Run 2/26/2026 8:48 AM

APS - FAP Client: APS Data: APS Stats Table FAP Remedy Selection

Hollow symbols indicate censored values.

Sen's Slope Estimator



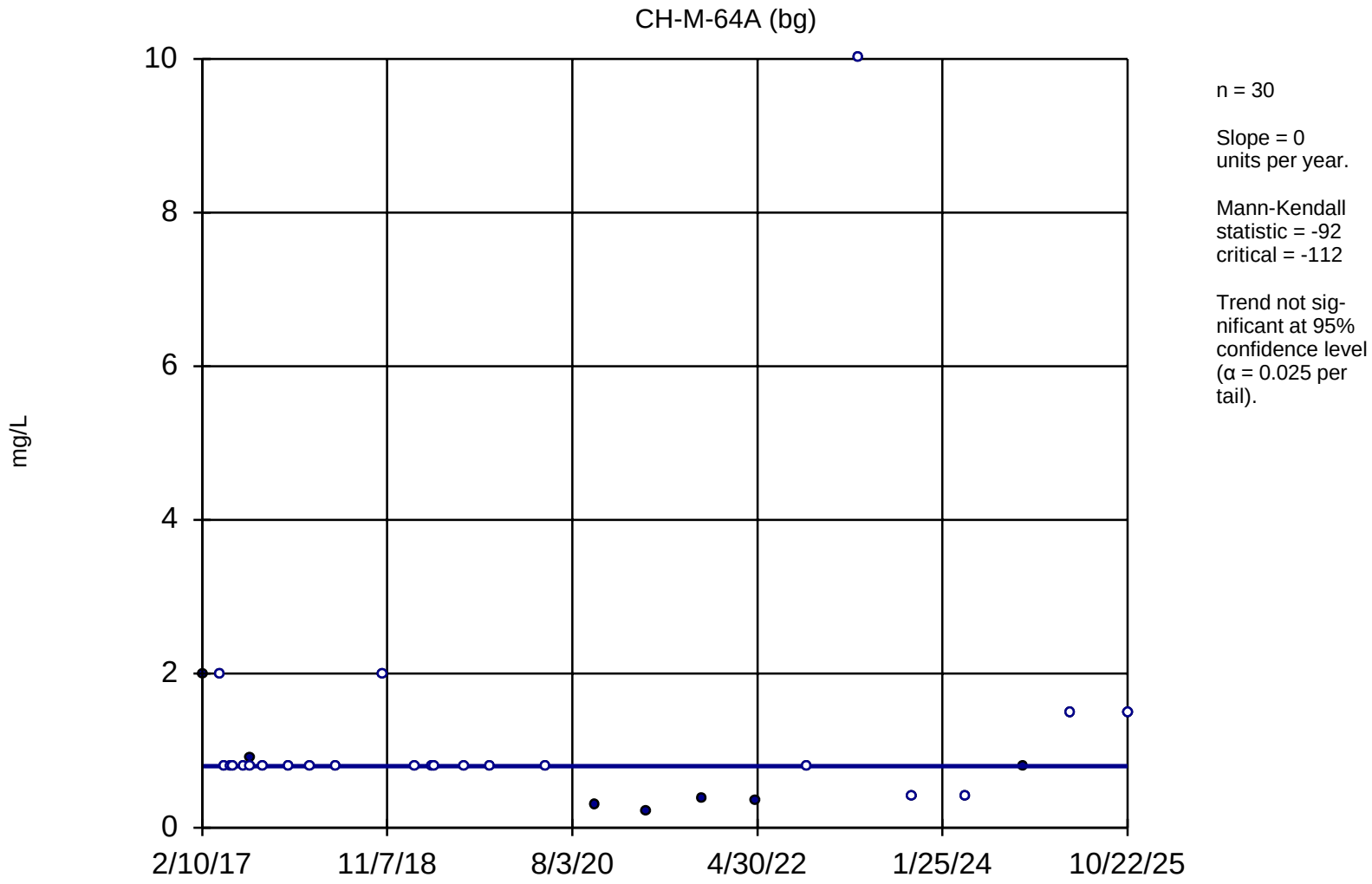
Constituent: Fluoride Analysis Run 2/26/2026 8:48 AM

APS - FAP Client: APS Data: APS Stats Table FAP Remedy Selection

Sanitas™ v.10.1.03a For the statistical analyses of ground water by WSP USA only. UG

Hollow symbols indicate censored values.

Sen's Slope Estimator

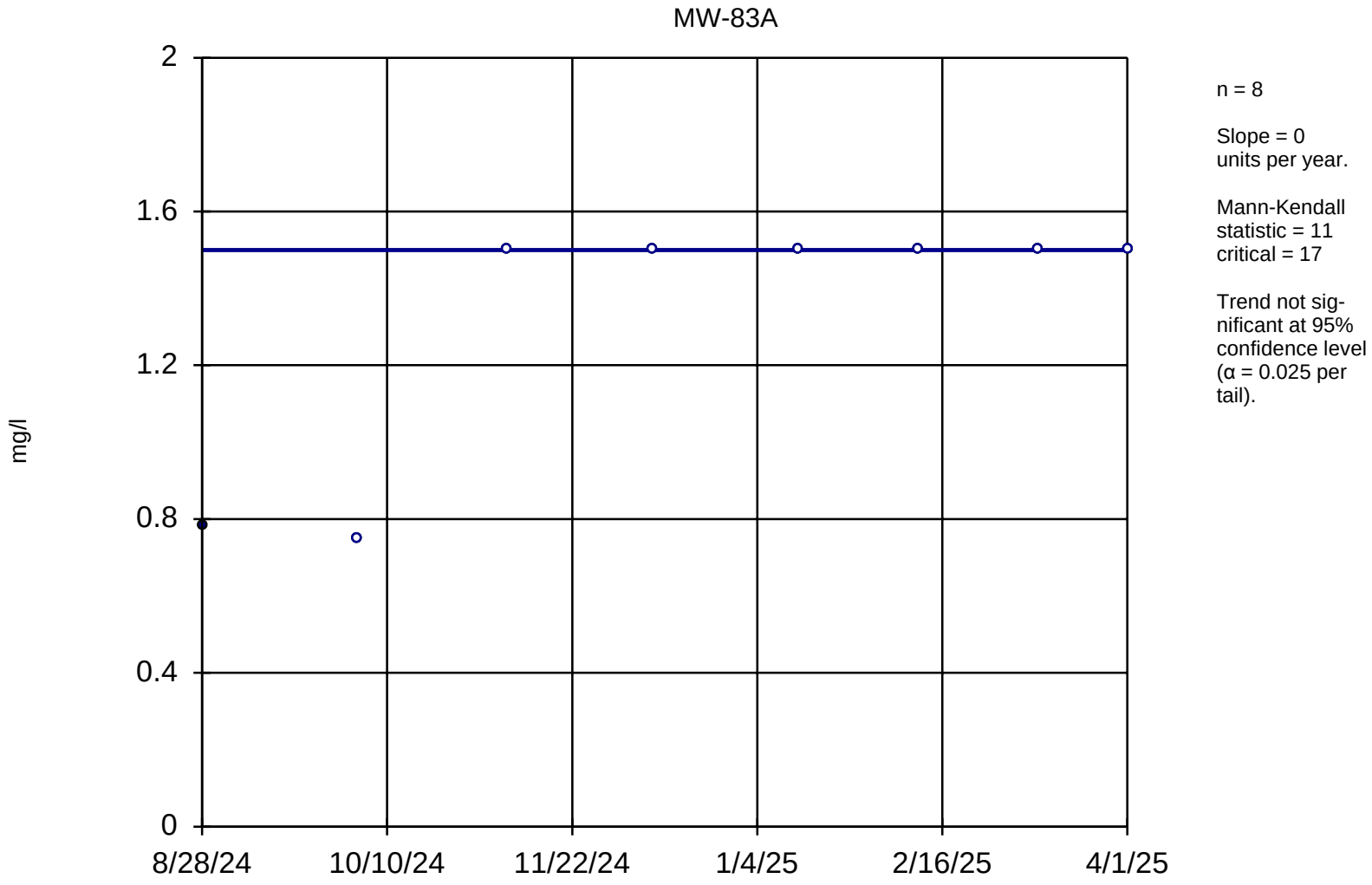


Constituent: Fluoride Analysis Run 2/26/2026 8:48 AM

APS - FAP Client: APS Data: APS Stats Table FAP Remedy Selection

Hollow symbols indicate censored values.

Sen's Slope Estimator



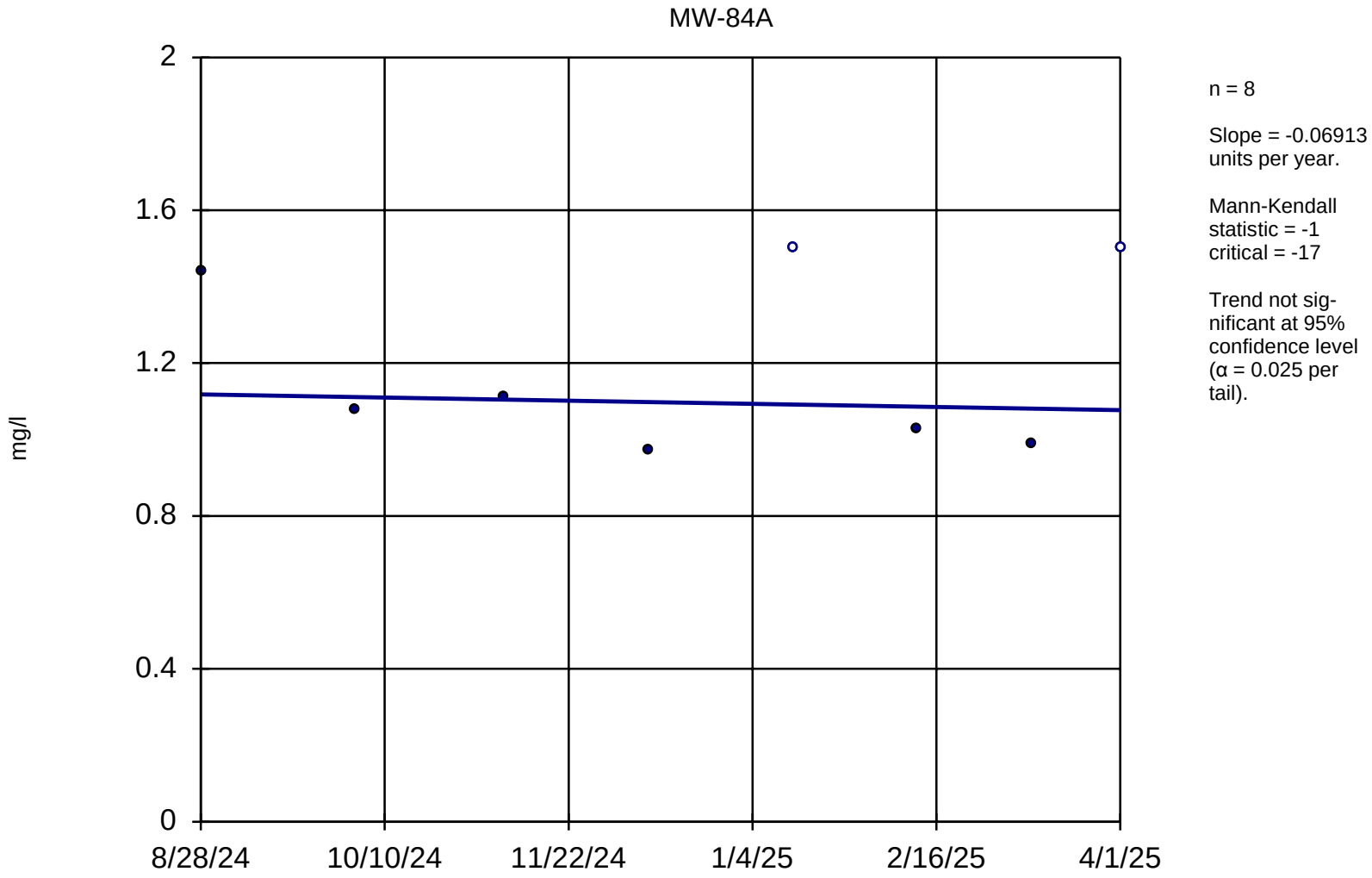
Constituent: Fluoride Analysis Run 5/5/2026 11:36 AM

Cholla - Evap Wells Client: APS Data: APS Trend Plots - Evap Wells

Sanitas™ v.10.1.06 For the statistical analyses of ground water by WSP USA only. EPA

Hollow symbols indicate censored values.

Sen's Slope Estimator

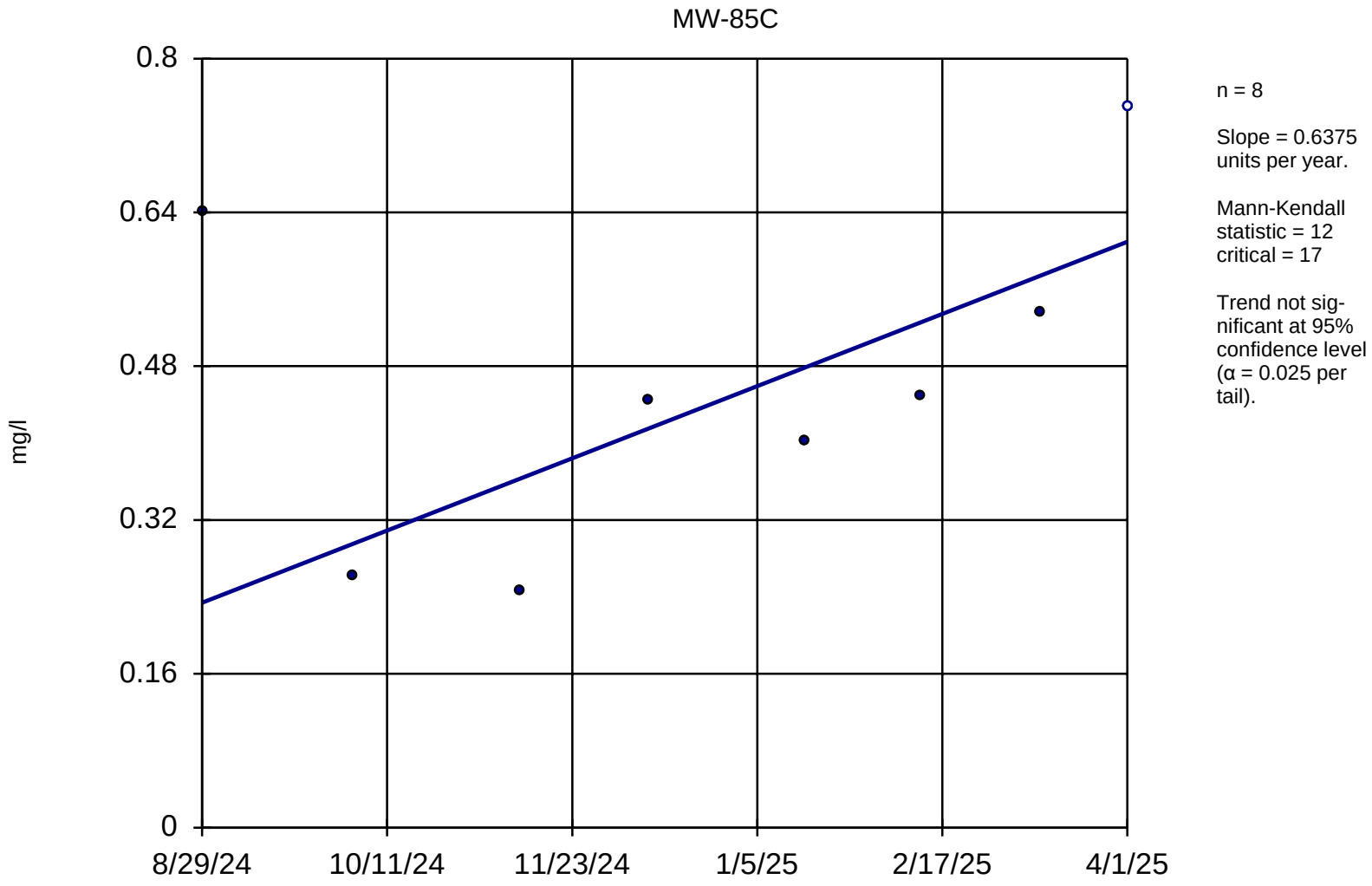


Constituent: Fluoride Analysis Run 5/5/2026 11:36 AM

Cholla - Evap Wells Client: APS Data: APS Trend Plots - Evap Wells

Hollow symbols indicate censored values.

Sen's Slope Estimator



Constituent: Fluoride Analysis Run 5/5/2026 11:36 AM

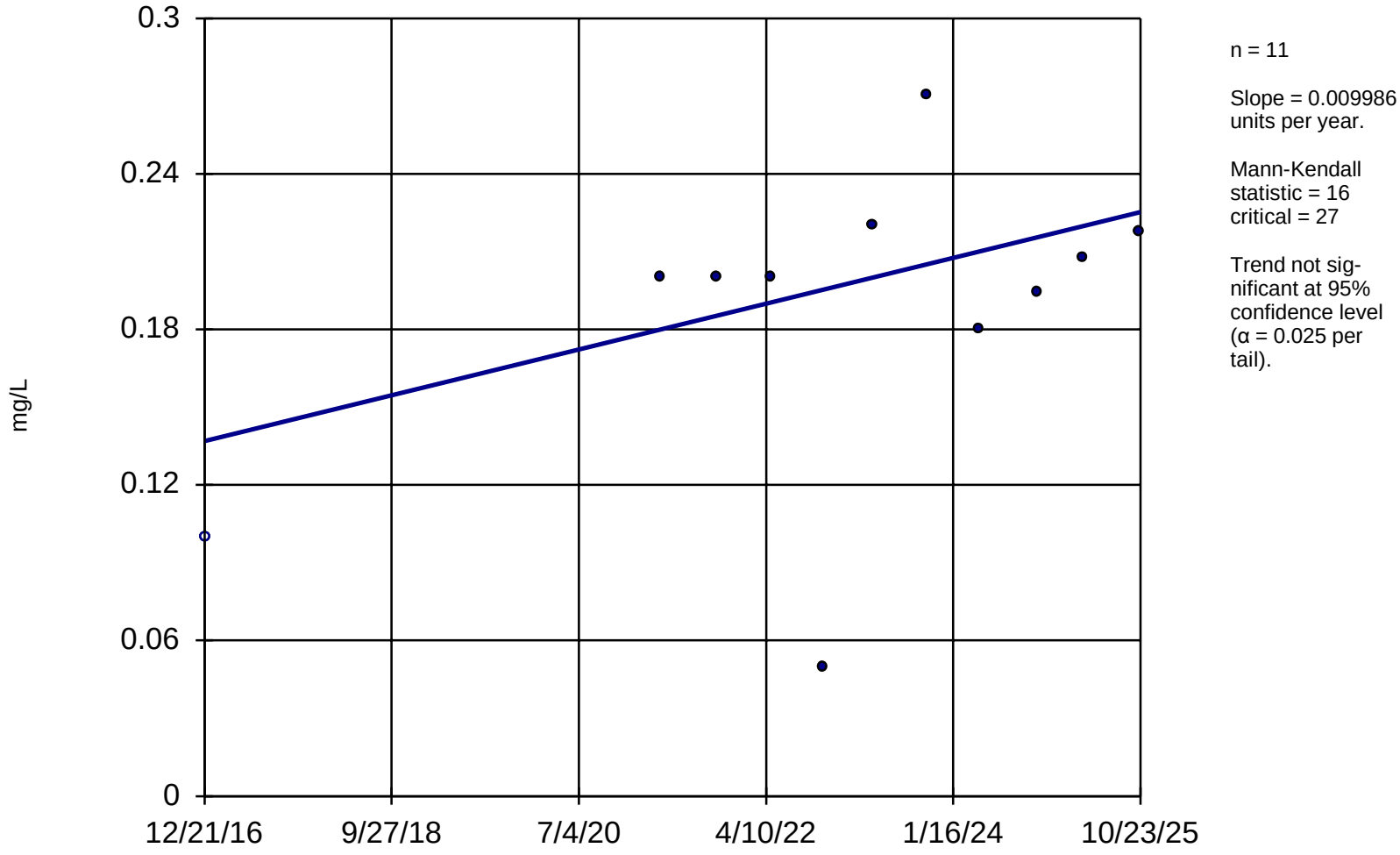
Cholla - Evap Wells Client: APS Data: APS Trend Plots - Evap Wells

Sanitas™ v.10.1.03a For the statistical analyses of ground water by WSP USA only. UG

Hollow symbols indicate censored values.

Sen's Slope Estimator

CH-M-45A



n = 11

Slope = 0.009986 units per year.

Mann-Kendall statistic = 16
critical = 27

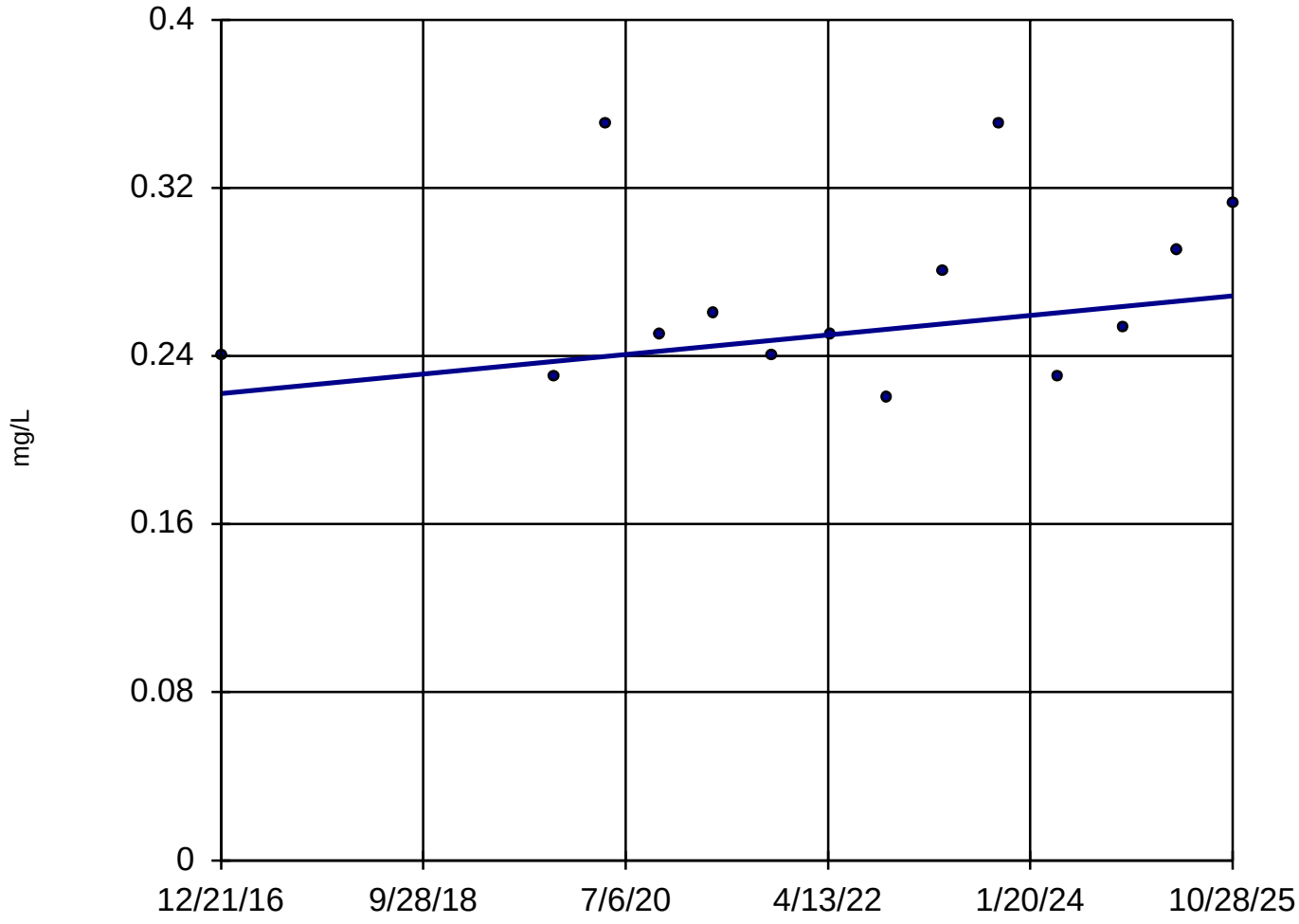
Trend not significant at 95% confidence level (α = 0.025 per tail).

Constituent: Lithium Analysis Run 2/26/2026 8:48 AM

APS - FAP Client: APS Data: APS Stats Table FAP Remedy Selection

Sen's Slope Estimator

CH-M-46A



n = 14

Slope = 0.005244 units per year.

Mann-Kendall statistic = 23
critical = 37

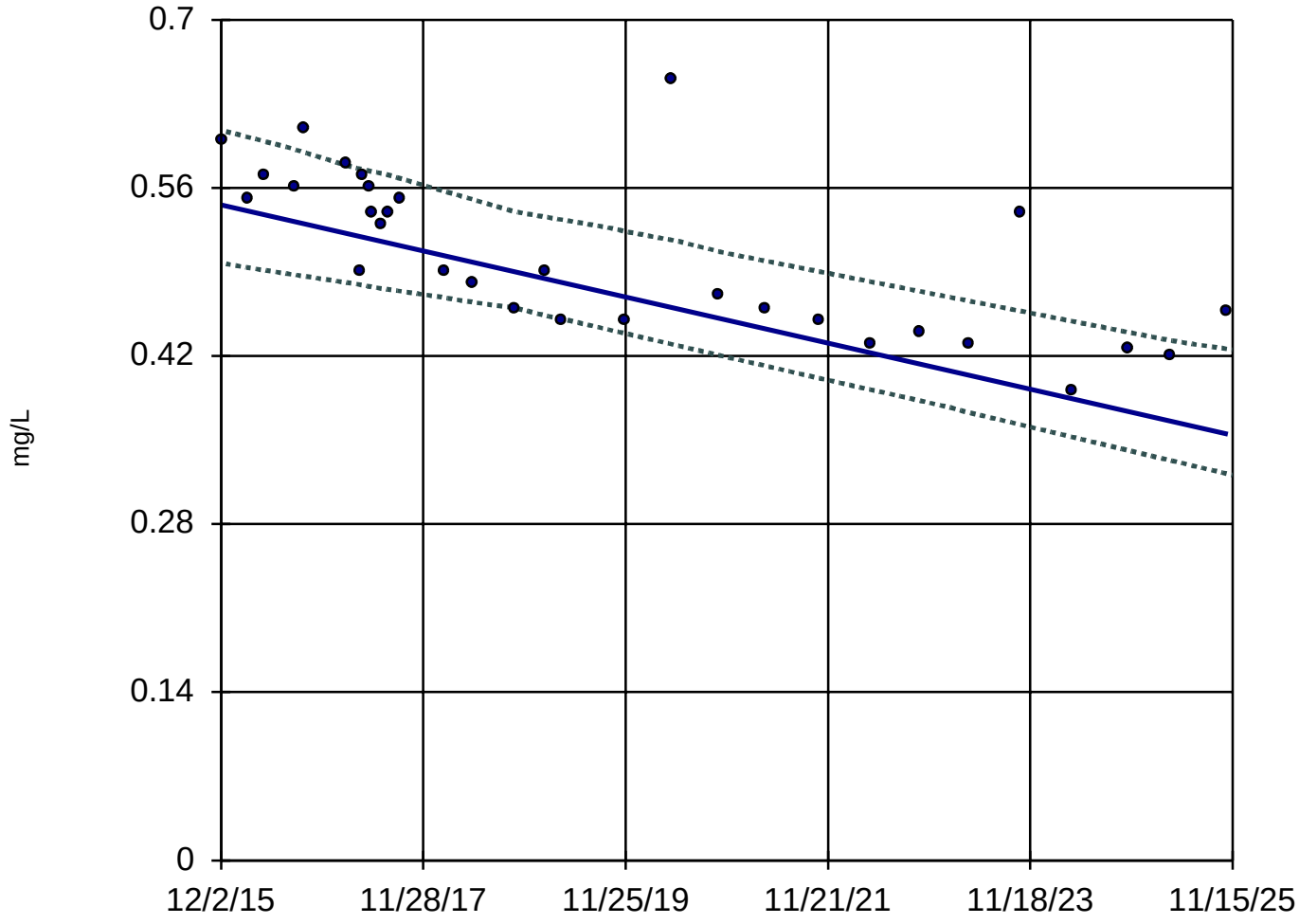
Trend not significant at 95% confidence level (α = 0.025 per tail).

Constituent: Lithium Analysis Run 2/26/2026 8:48 AM

APS - FAP Client: APS Data: APS Stats Table FAP Remedy Selection

Sen's Slope and 95% Confidence Band

CH-M-51A



n = 31

Slope = -0.01923 units per year.

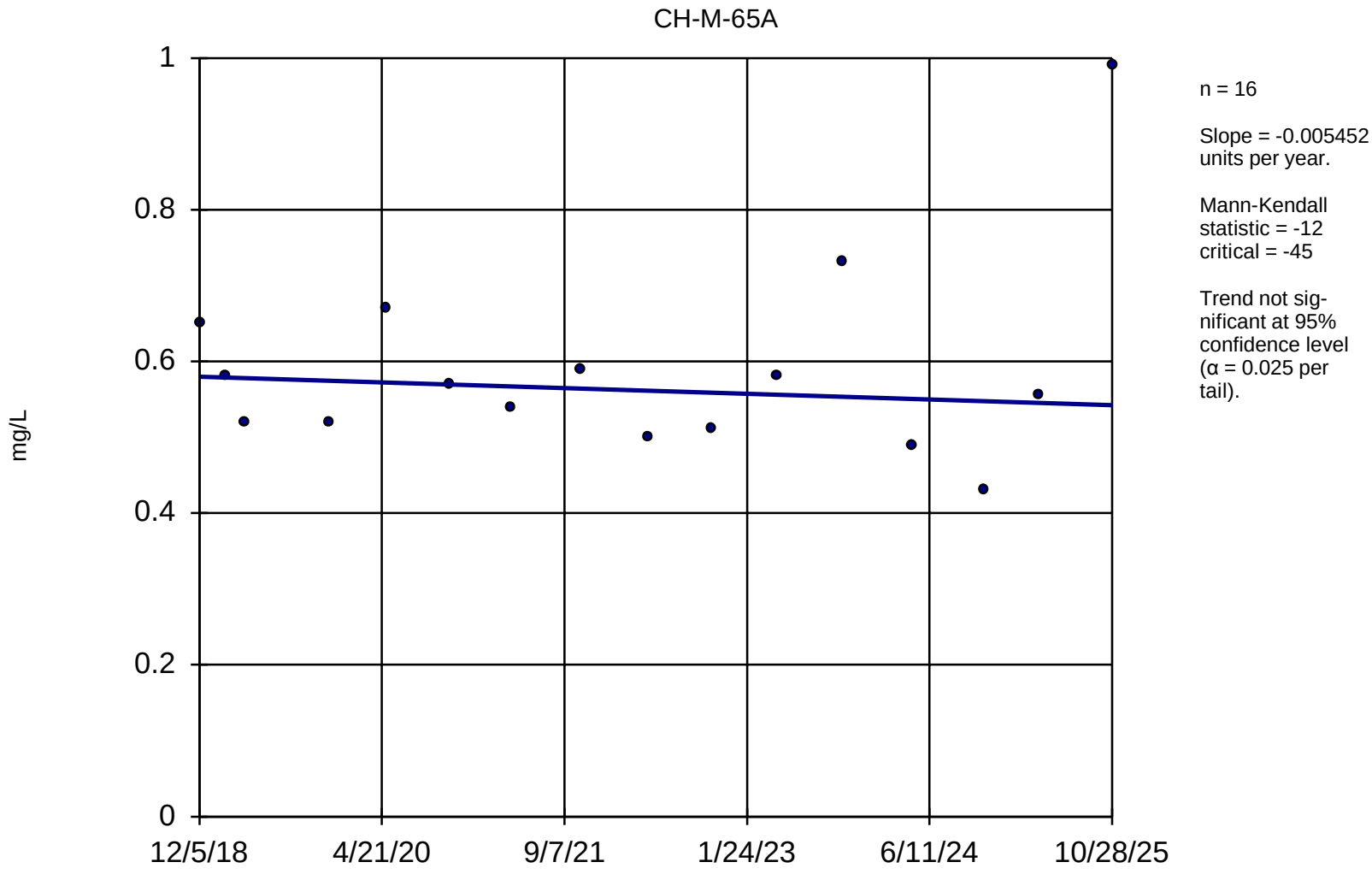
Mann-Kendall statistic = -303
critical = -117

Decreasing trend significant at 95% confidence level (α = 0.025 per tail).

Constituent: Lithium Analysis Run 2/26/2026 8:48 AM

APS - FAP Client: APS Data: APS Stats Table FAP Remedy Selection

Sen's Slope Estimator

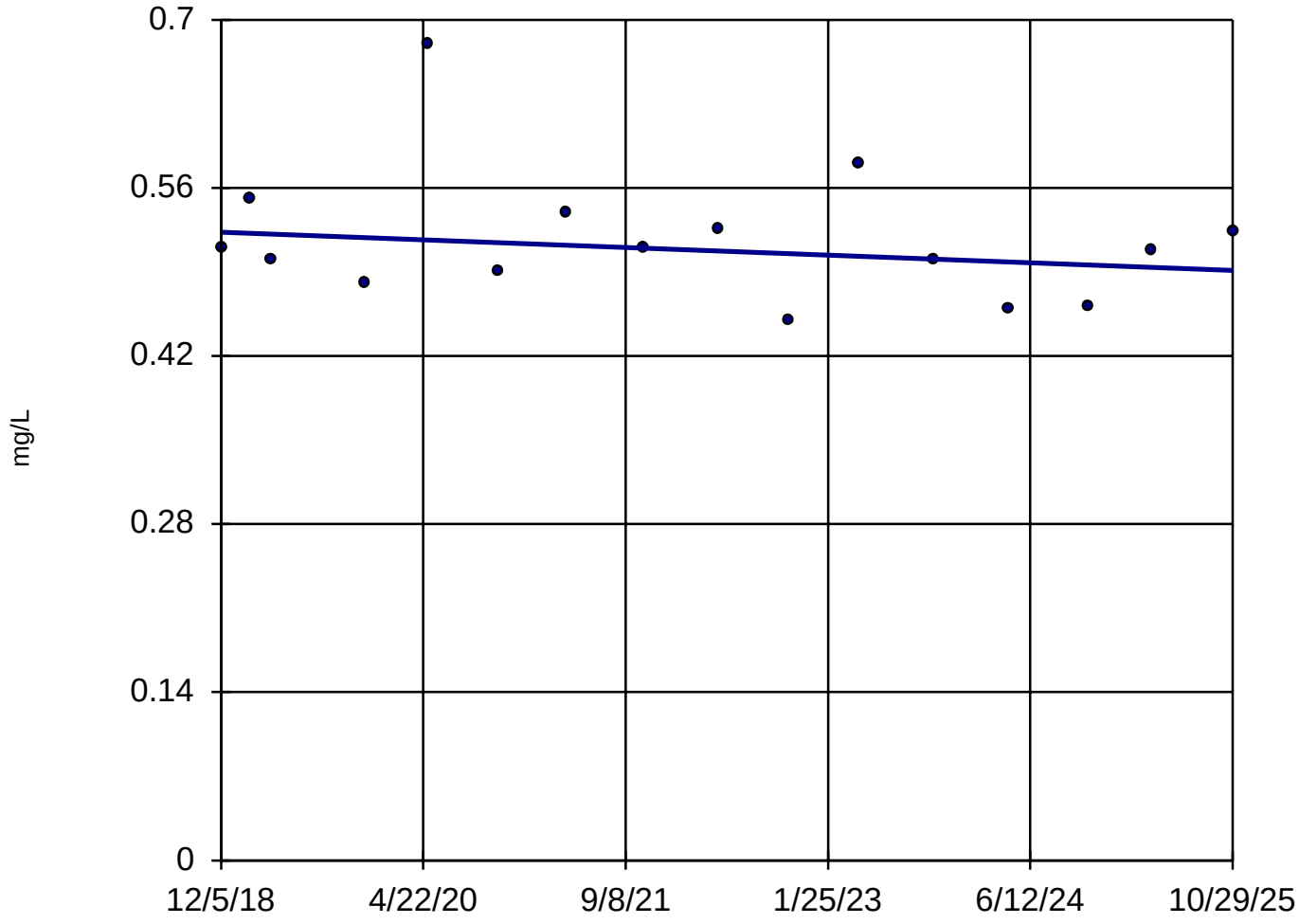


Constituent: Lithium Analysis Run 2/26/2026 8:48 AM

APS - FAP Client: APS Data: APS Stats Table FAP Remedy Selection

Sen's Slope Estimator

CH-M-66A



n = 16

Slope = -0.004583 units per year.

Mann-Kendall statistic = -18
critical = -45

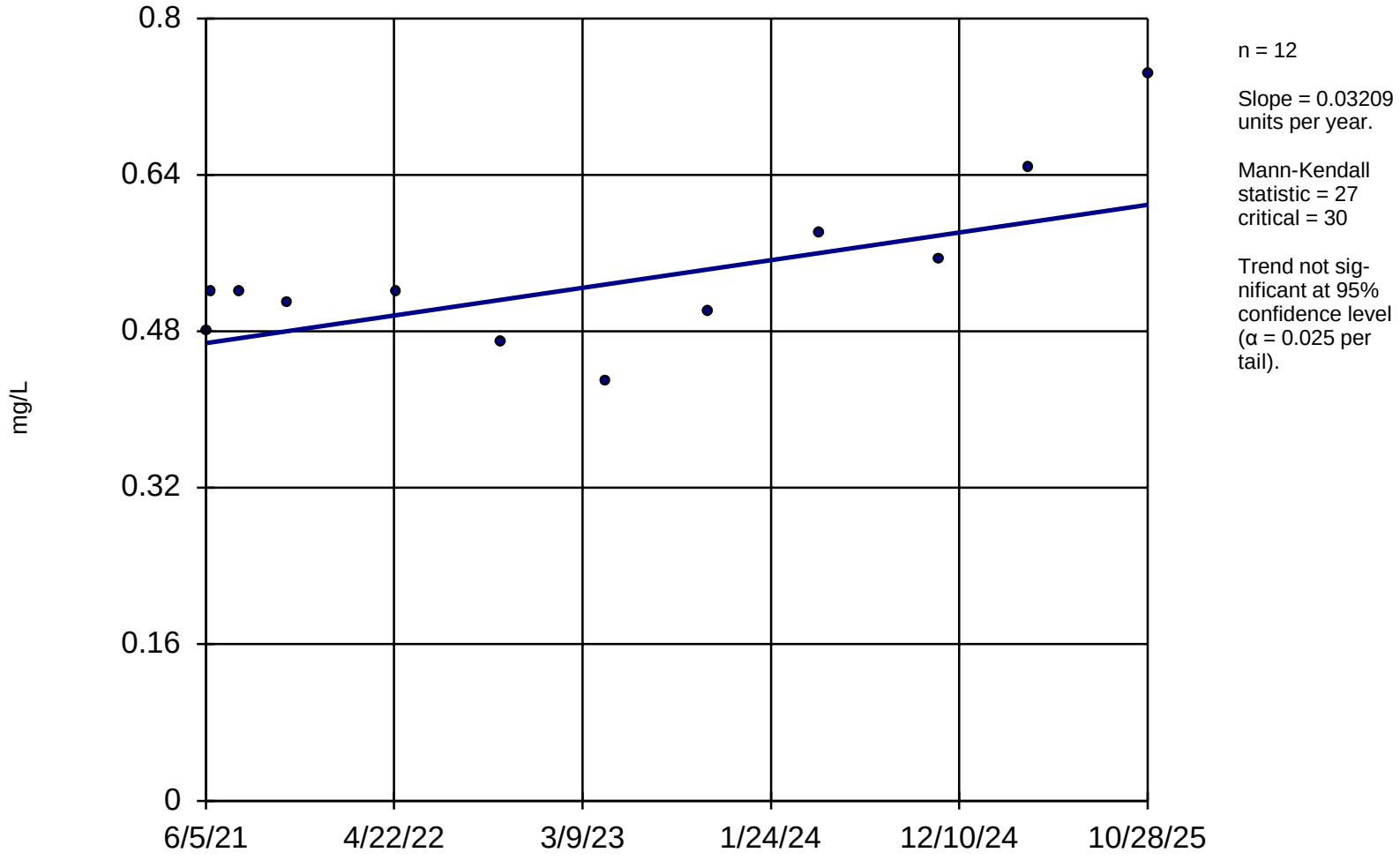
Trend not significant at 95% confidence level (α = 0.025 per tail).

Constituent: Lithium Analysis Run 2/26/2026 8:48 AM

APS - FAP Client: APS Data: APS Stats Table FAP Remedy Selection

Sen's Slope Estimator

CH-W-123R



n = 12

Slope = 0.03209 units per year.

Mann-Kendall statistic = 27
critical = 30

Trend not significant at 95% confidence level (α = 0.025 per tail).

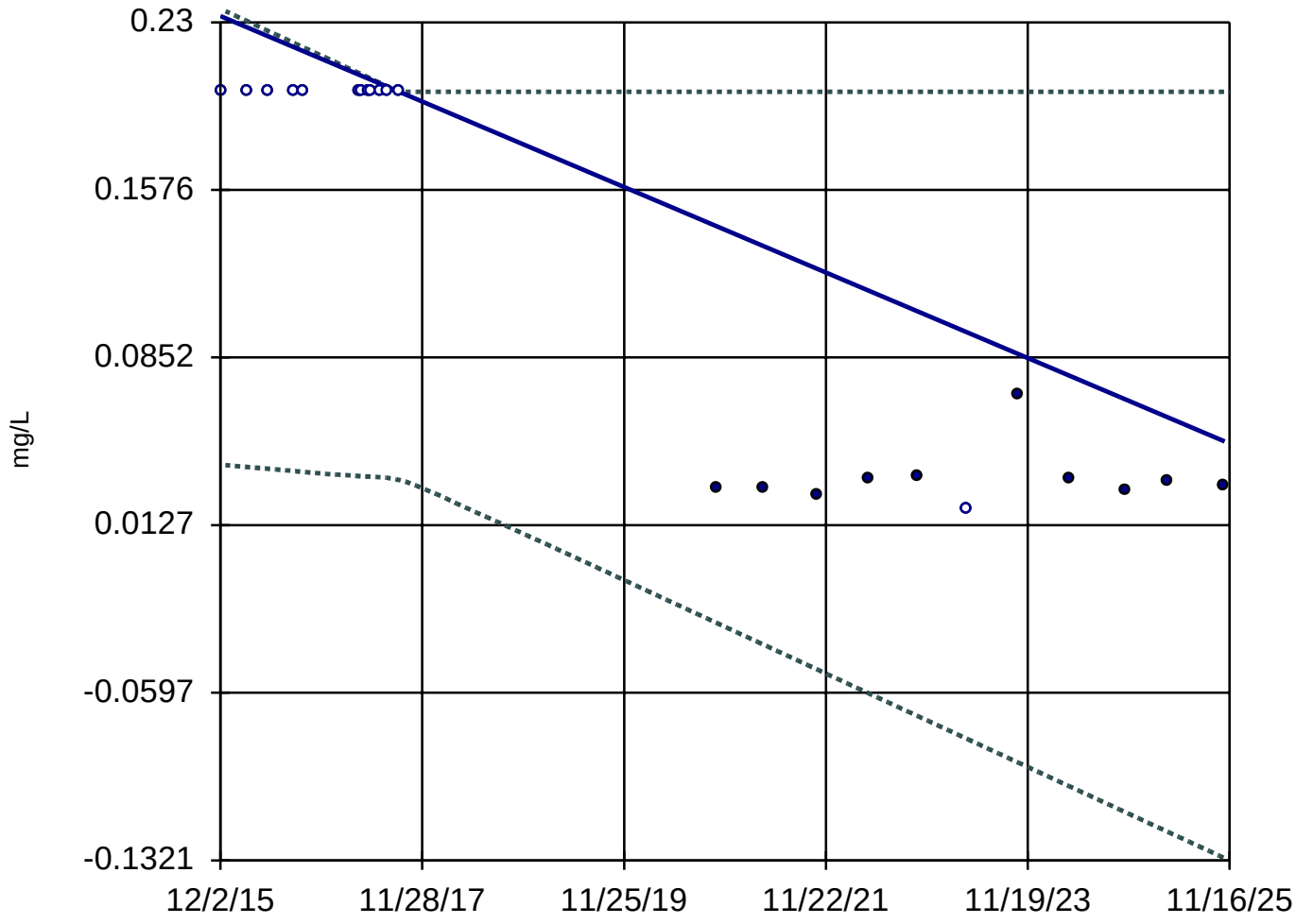
Constituent: Lithium Analysis Run 2/26/2026 8:48 AM

APS - FAP Client: APS Data: APS Stats Table FAP Remedy Selection

Hollow symbols indicate censored values.

Sen's Slope and 95% Confidence Band

CH-W-125



n = 23

Slope = -0.01854 units per year.

Mann-Kendall statistic = -127
critical = -76

Decreasing trend significant at 95% confidence level (α = 0.025 per tail).

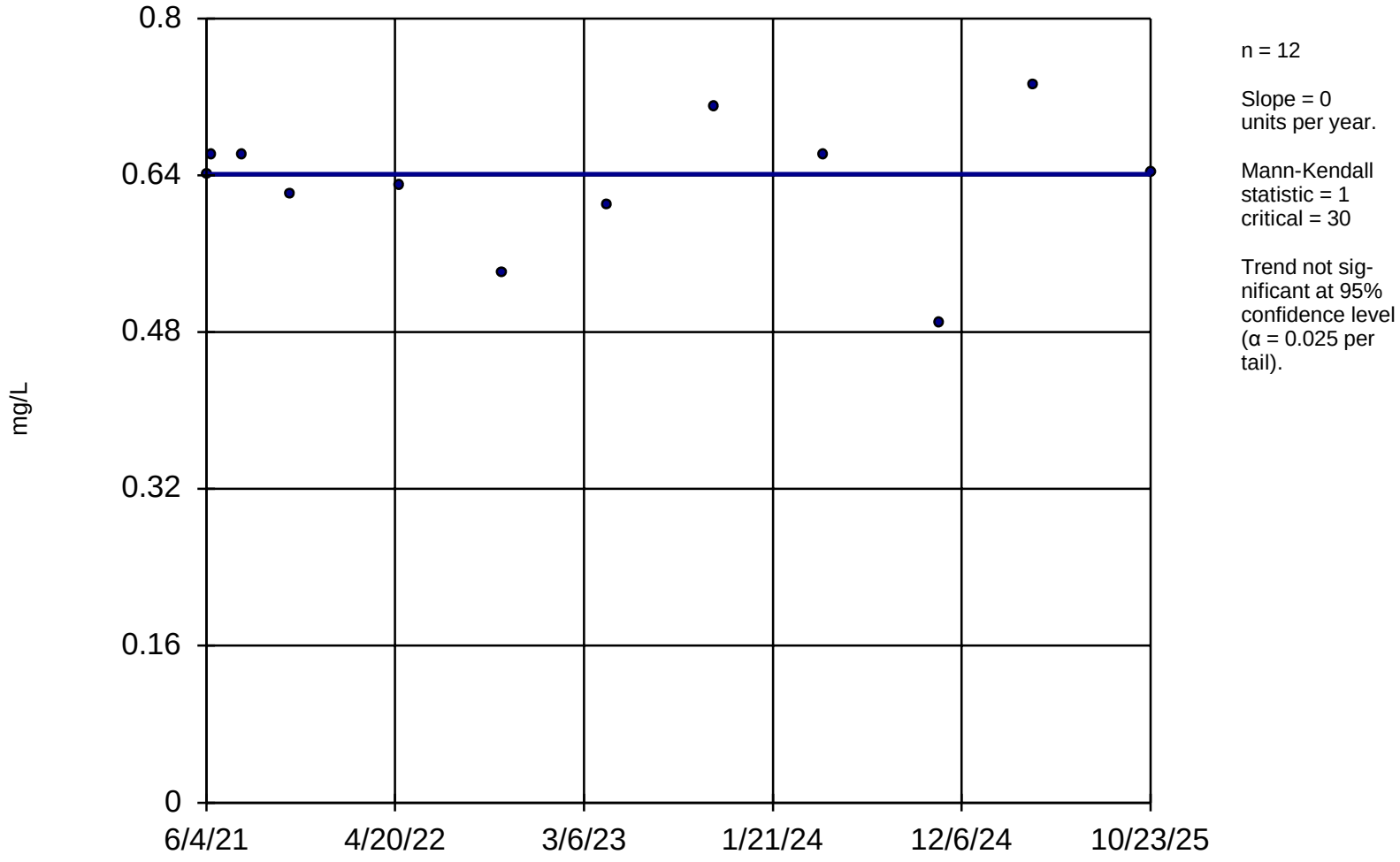
Constituent: Lithium Analysis Run 5/26/2026 4:37 PM

APS - FAP Client: APS Data: APS Stats Table FAP Remedy Selection - MW-125

Number of non-detects is greater than 50%; Mann-Kendall trend graphs cannot be properly assessed.

Sen's Slope Estimator

CH-W-126R



n = 12

Slope = 0
units per year.

Mann-Kendall
statistic = 1
critical = 30

Trend not sig-
nificant at 95%
confidence level
(α = 0.025 per
tail).

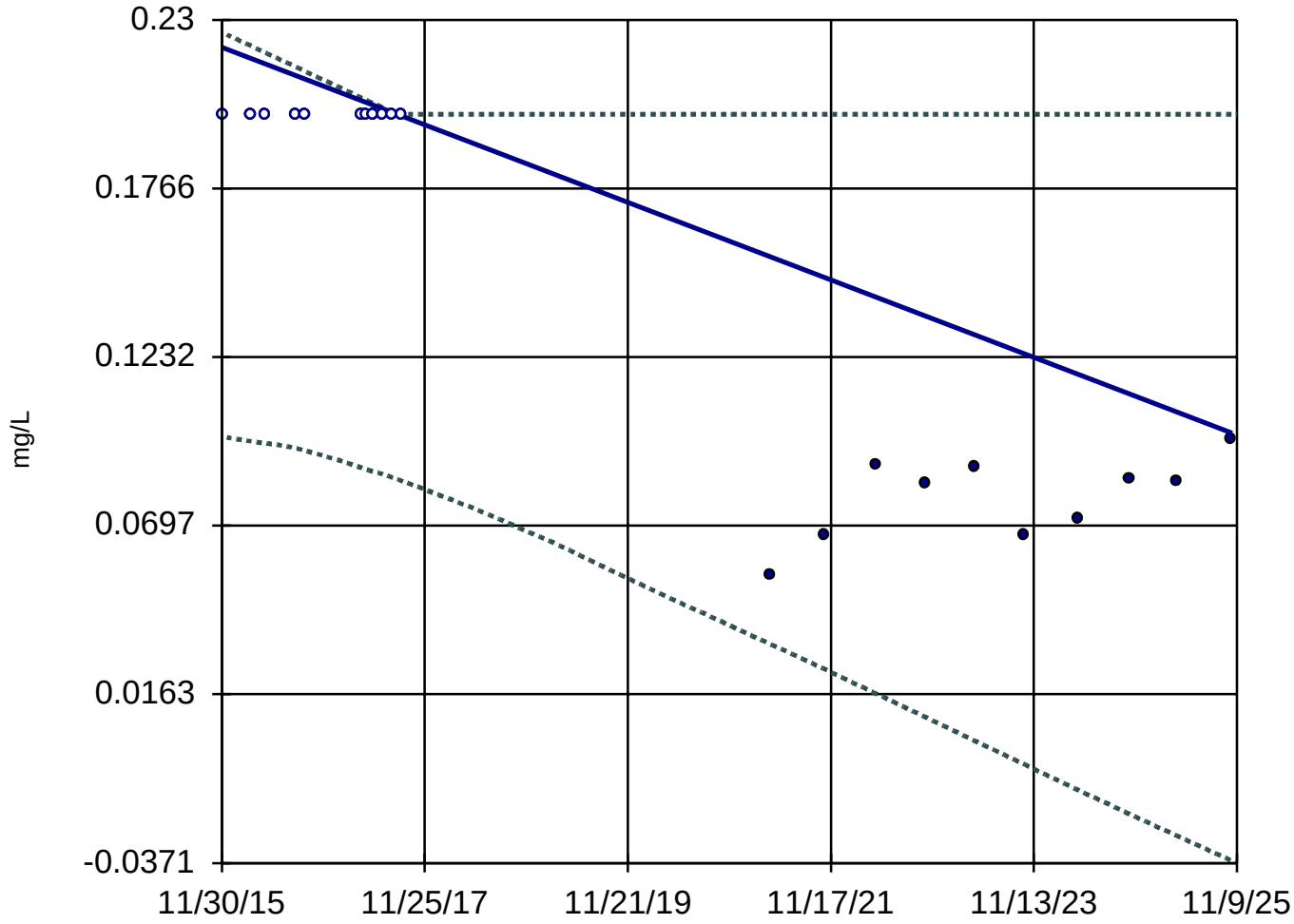
Constituent: Lithium Analysis Run 2/26/2026 8:48 AM

APS - FAP Client: APS Data: APS Stats Table FAP Remedy Selection

Hollow symbols indicate censored values.

Sen's Slope and 95% Confidence Band

M-63A



n = 22

Slope = -0.01233 units per year.

Mann-Kendall statistic = -103
critical = -71

Decreasing trend significant at 95% confidence level (α = 0.025 per tail).

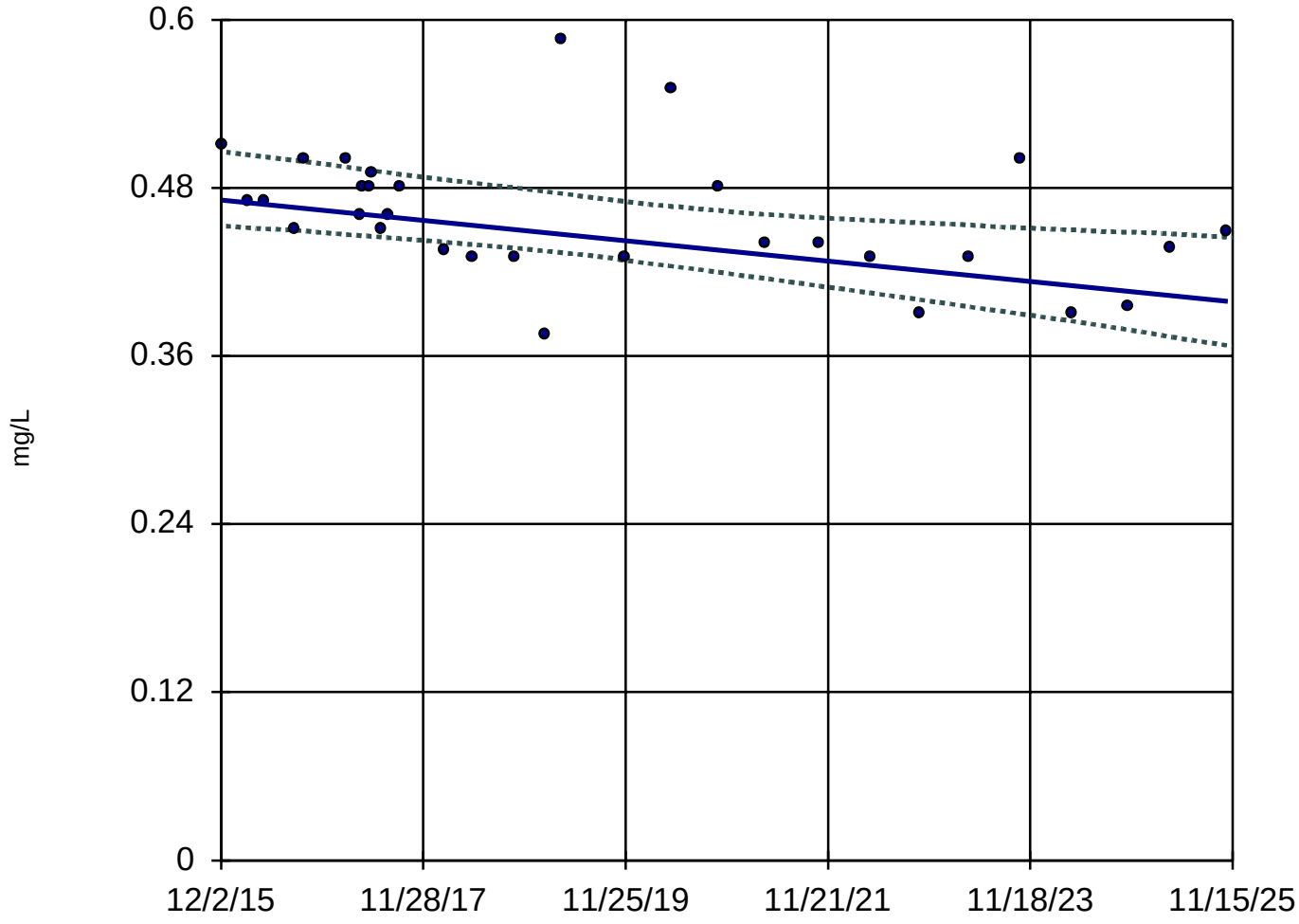
Constituent: Lithium Analysis Run 2/26/2026 8:48 AM

APS - FAP Client: APS Data: APS Stats Table FAP Remedy Selection

Percent non-detects greater than 50%. Trend analysis cannot be properly assessed.

Sen's Slope and 95% Confidence Band

MW-50A



n = 31

Slope = -0.007289 units per year.

Mann-Kendall statistic = -165
critical = -117

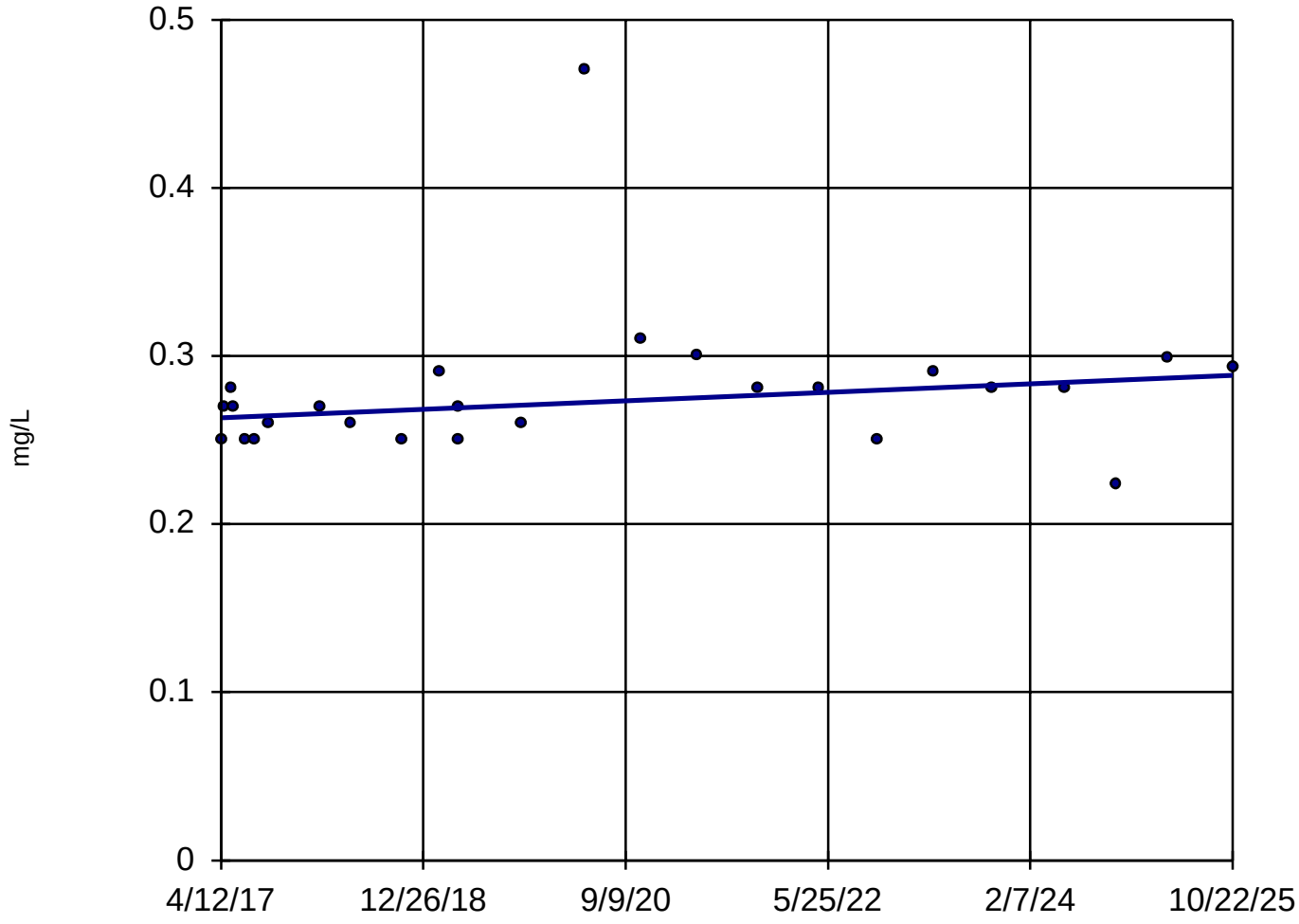
Decreasing trend significant at 95% confidence level (α = 0.025 per tail).

Constituent: Lithium Analysis Run 2/26/2026 8:48 AM

APS - FAP Client: APS Data: APS Stats Table FAP Remedy Selection

Sen's Slope Estimator

CH-M-64A (bg)



n = 26

Slope = 0.002974 units per year.

Mann-Kendall statistic = 80
critical = 90

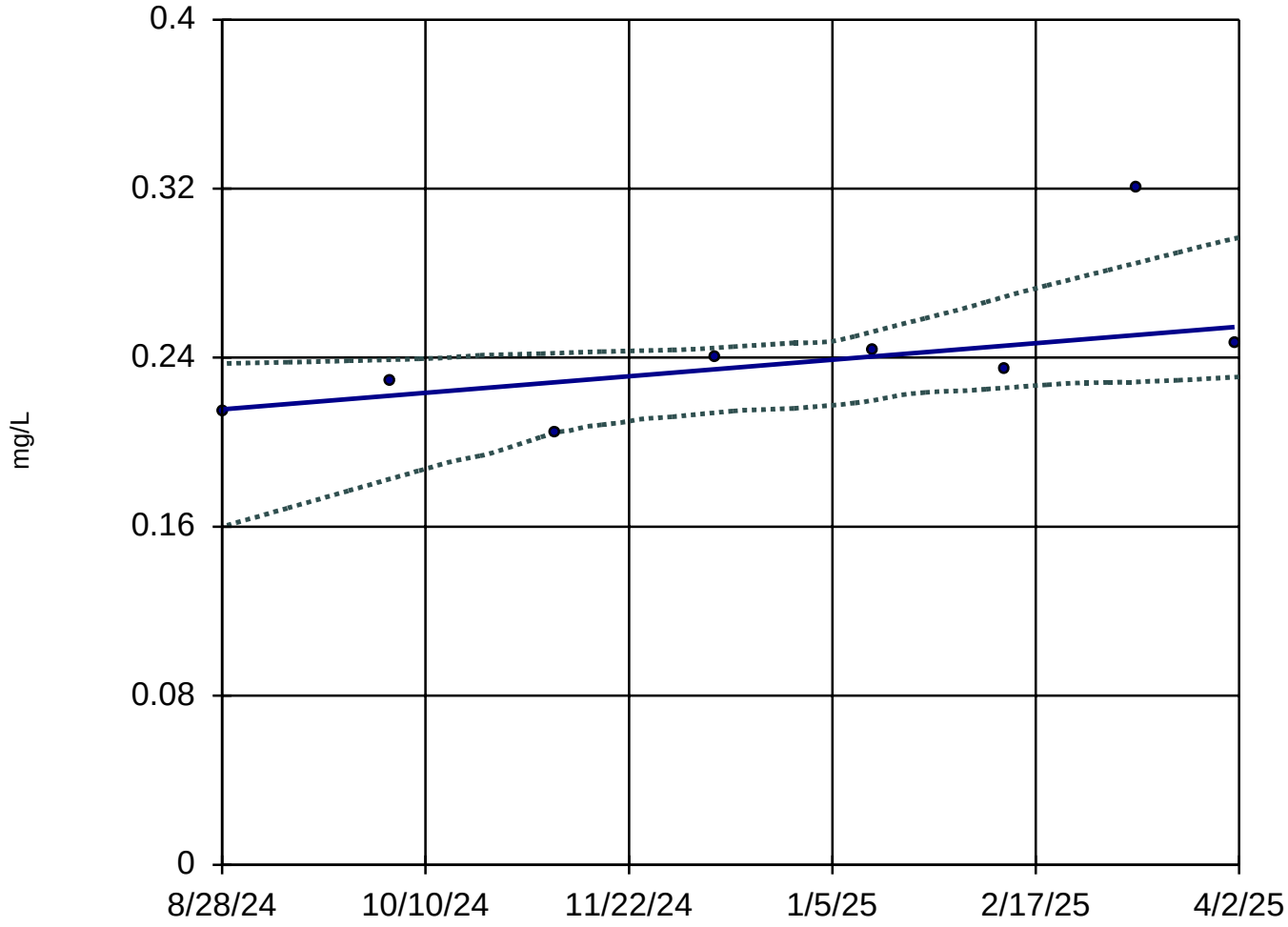
Trend not significant at 95% confidence level (α = 0.025 per tail).

Constituent: Lithium Analysis Run 2/26/2026 8:48 AM

APS - FAP Client: APS Data: APS Stats Table FAP Remedy Selection

Sen's Slope and 95% Confidence Band

MW-83A



n = 8

Slope = 0.06586 units per year.

Mann-Kendall statistic = 18
critical = 17

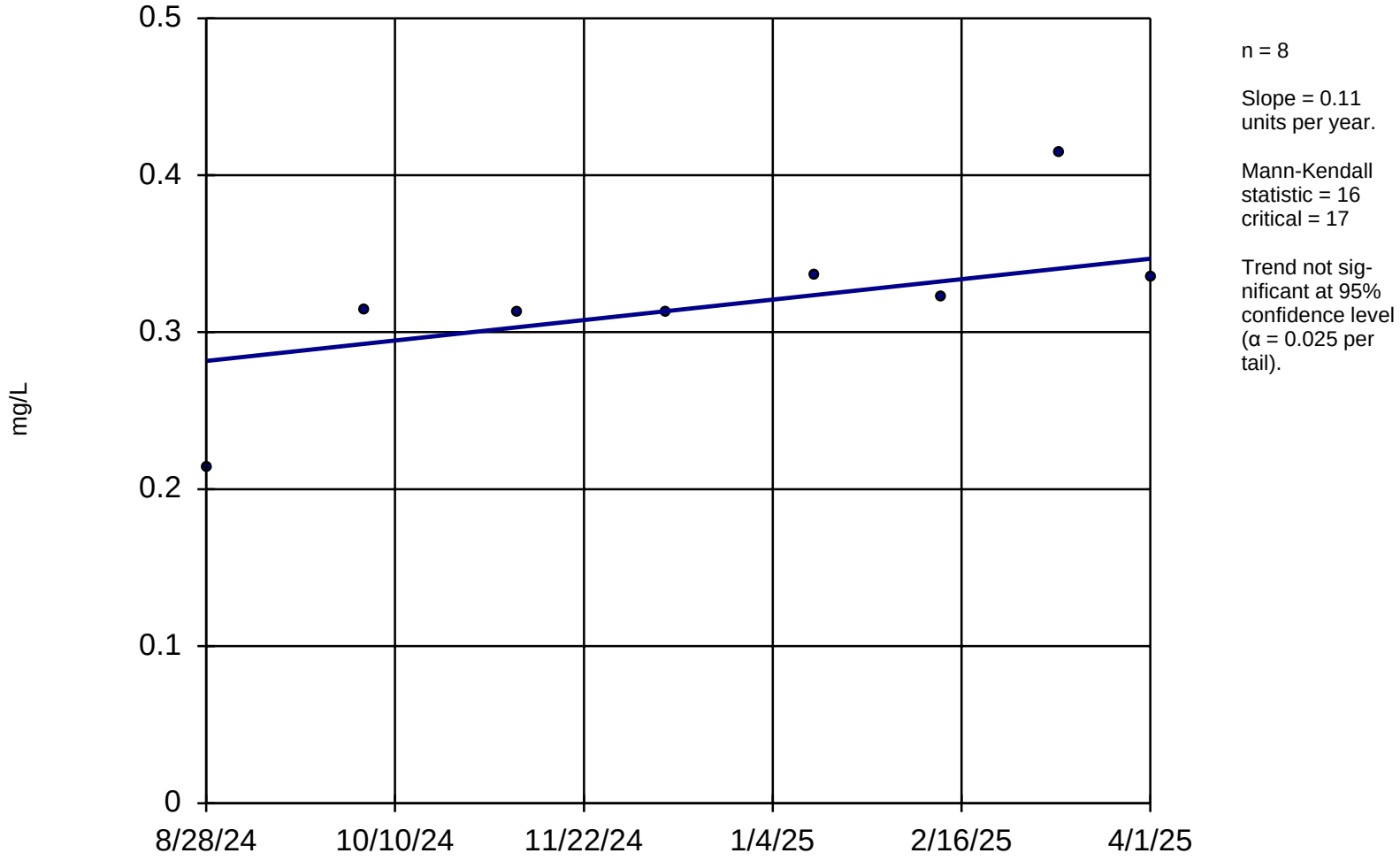
Increasing trend significant at 95% confidence level (α = 0.025 per tail).

Constituent: Lithium Analysis Run 5/5/2026 11:36 AM

Cholla - Evap Wells Client: APS Data: APS Trend Plots - Evap Wells

Sen's Slope Estimator

MW-84A



n = 8

Slope = 0.11 units per year.

Mann-Kendall statistic = 16
critical = 17

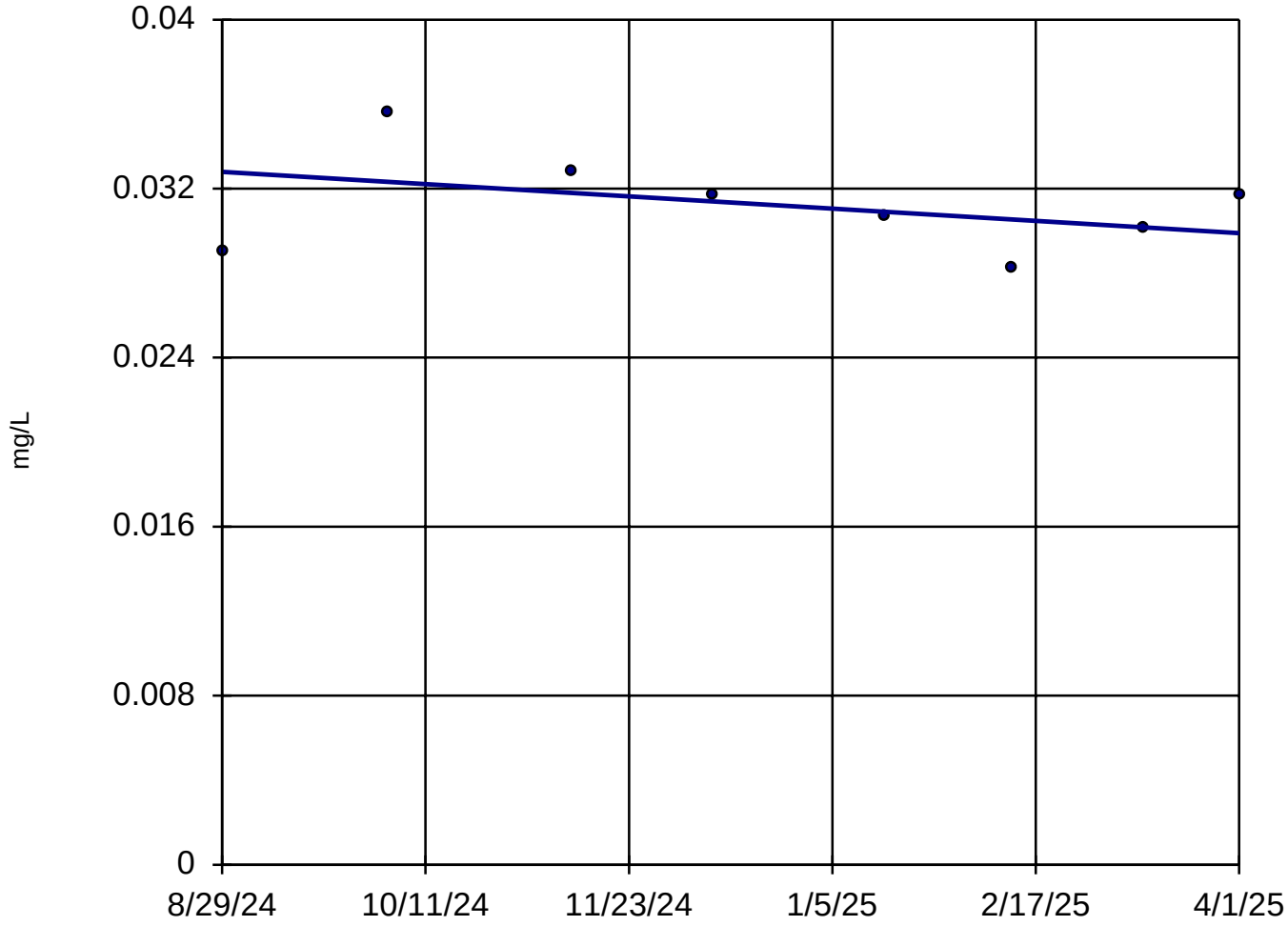
Trend not significant at 95% confidence level (α = 0.025 per tail).

Constituent: Lithium Analysis Run 5/5/2026 11:36 AM

Cholla - Evap Wells Client: APS Data: APS Trend Plots - Evap Wells

Sen's Slope Estimator

MW-85C



n = 8

Slope = -0.004934 units per year.

Mann-Kendall statistic = -6
critical = -17

Trend not significant at 95% confidence level (α = 0.025 per tail).

Constituent: Lithium Analysis Run 5/5/2026 11:36 AM

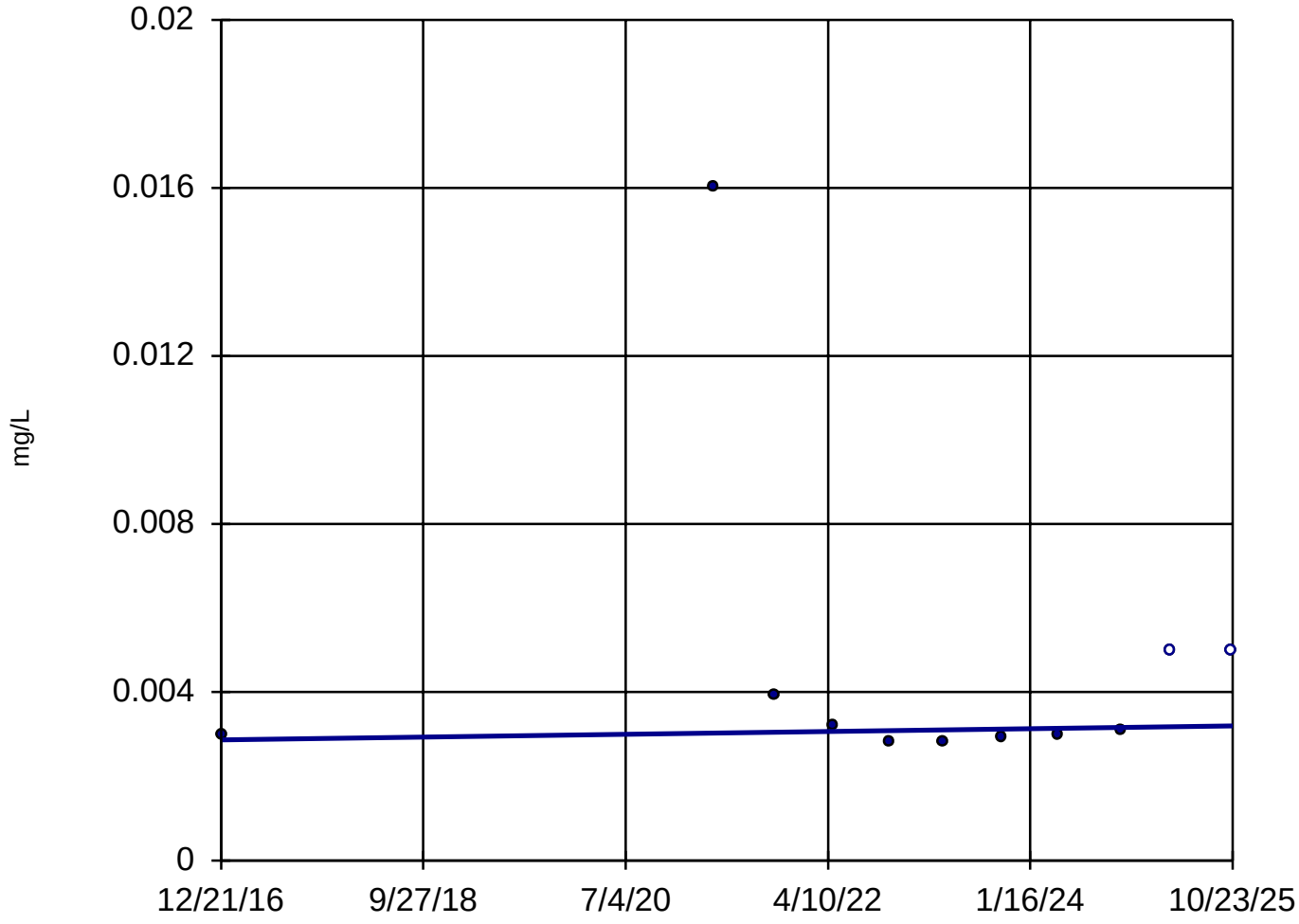
Cholla - Evap Wells Client: APS Data: APS Trend Plots - Evap Wells

Sanitas™ v.10.1.03a For the statistical analyses of ground water by WSP USA only. UG

Hollow symbols indicate censored values.

Sen's Slope Estimator

CH-M-45A



n = 11

Slope = 0.0000374 units per year.

Mann-Kendall statistic = 6
critical = 27

Trend not significant at 95% confidence level (α = 0.025 per tail).

Constituent: Molybdenum Analysis Run 2/26/2026 8:48 AM

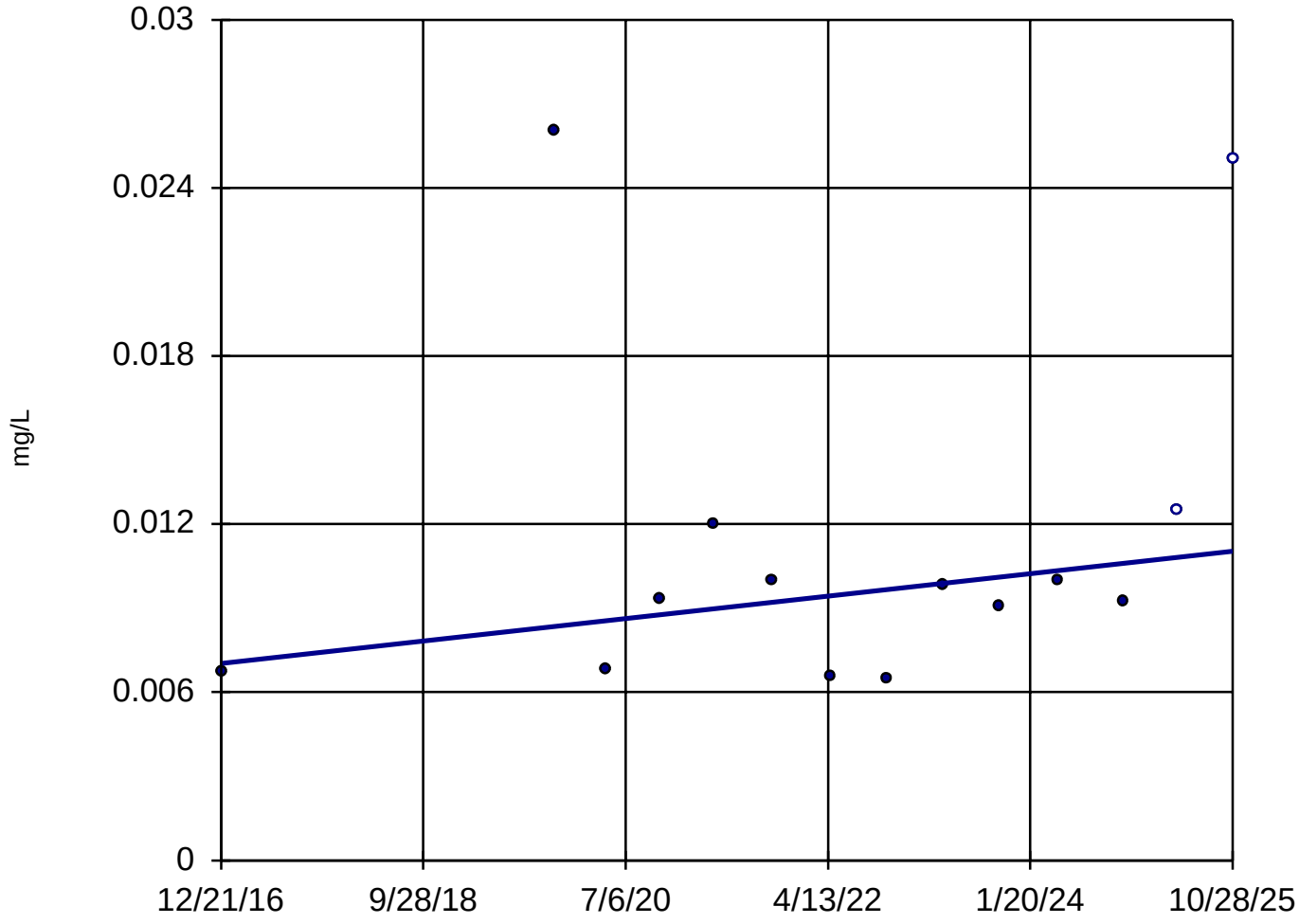
APS - FAP Client: APS Data: APS Stats Table FAP Remedy Selection

Sanitas™ v.10.1.03a For the statistical analyses of ground water by WSP USA only. UG

Hollow symbols indicate censored values.

Sen's Slope Estimator

CH-M-46A



n = 14

Slope = 0.0004504 units per year.

Mann-Kendall statistic = 18
critical = 37

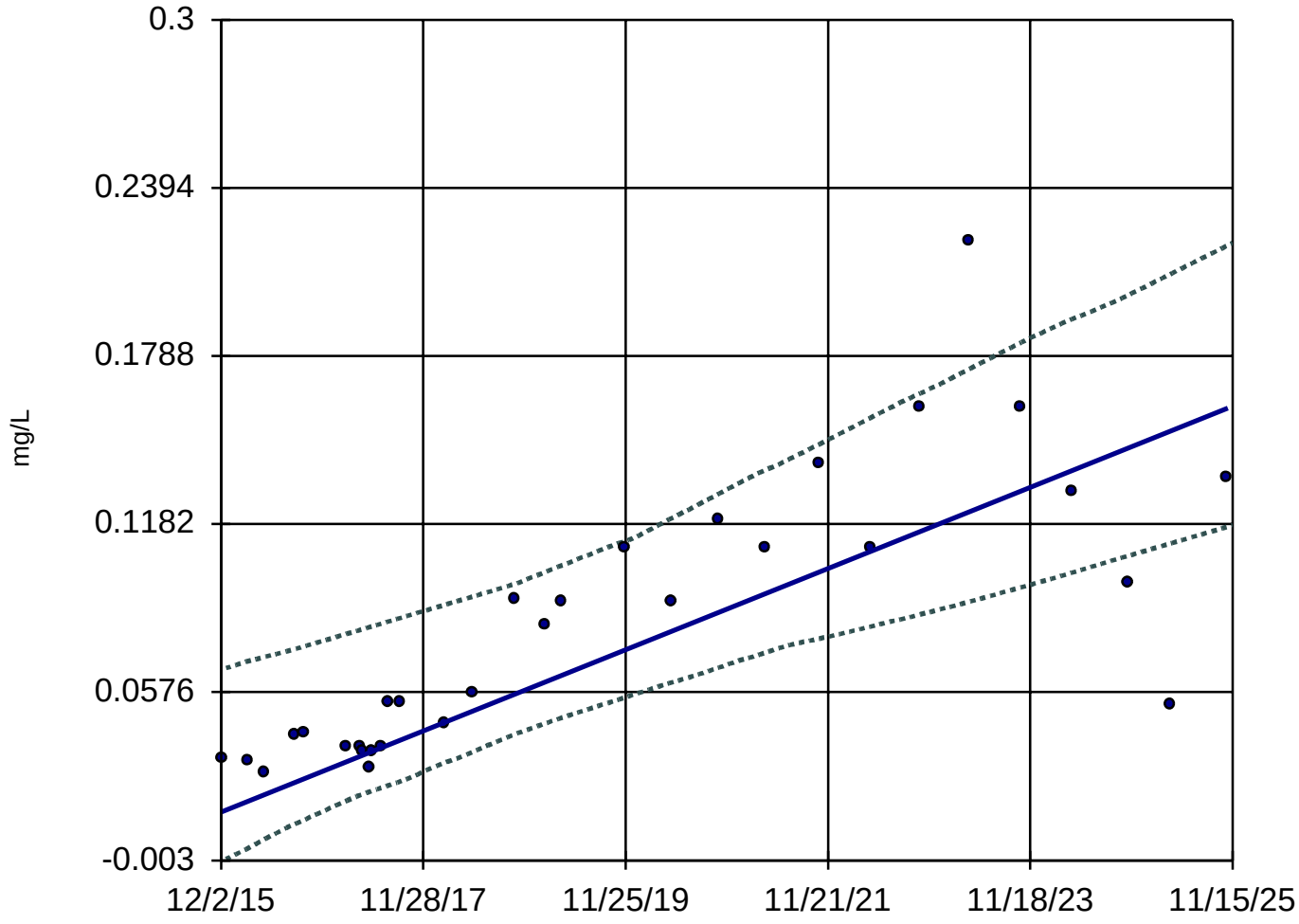
Trend not significant at 95% confidence level (α = 0.025 per tail).

Constituent: Molybdenum Analysis Run 2/26/2026 8:48 AM

APS - FAP Client: APS Data: APS Stats Table FAP Remedy Selection

Sen's Slope and 95% Confidence Band

CH-M-51A



n = 31

Slope = 0.01469 units per year.

Mann-Kendall statistic = 319
critical = 117

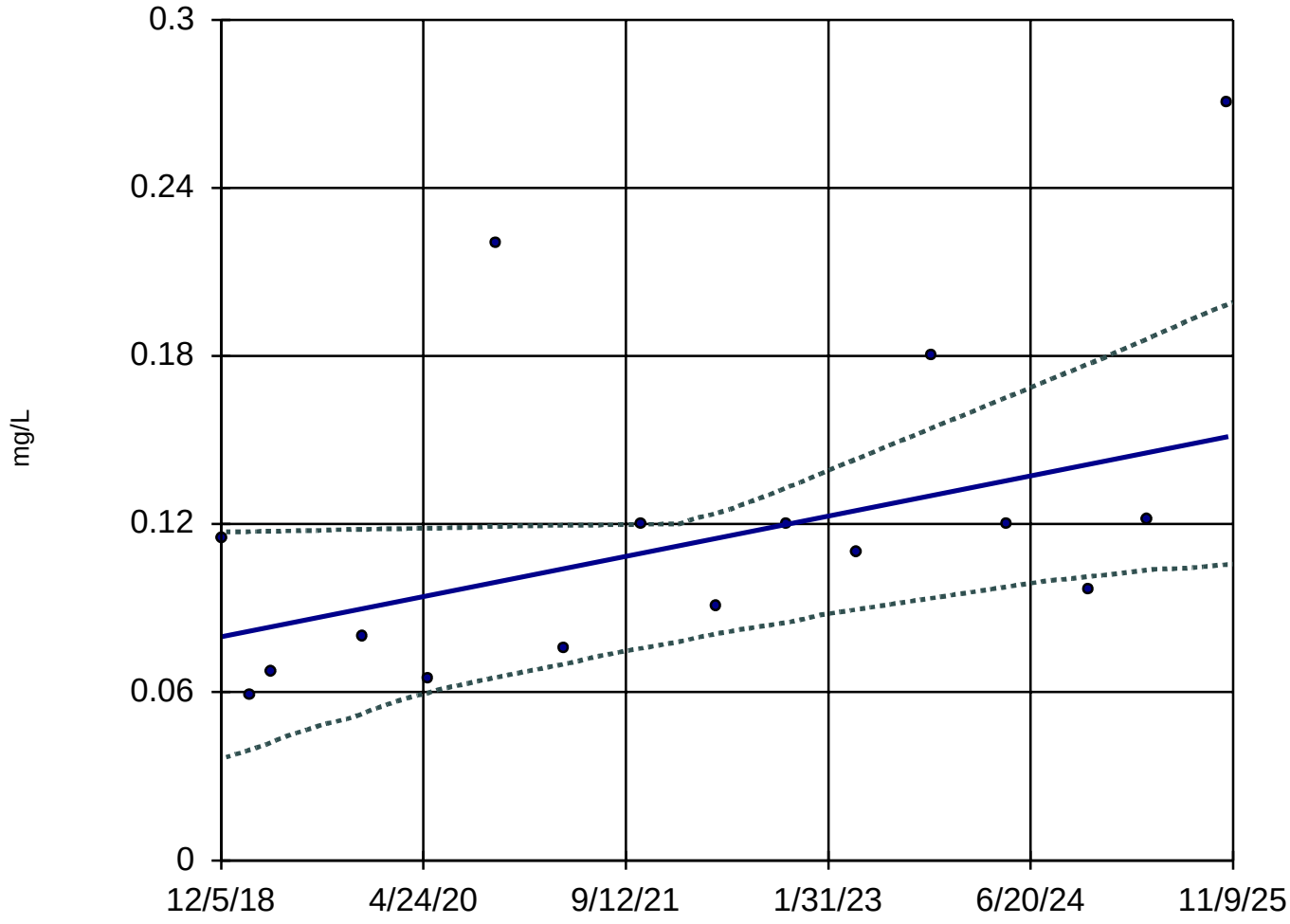
Increasing trend significant at 95% confidence level (α = 0.025 per tail).

Constituent: Molybdenum Analysis Run 2/26/2026 8:48 AM

APS - FAP Client: APS Data: APS Stats Table FAP Remedy Selection

Sen's Slope and 95% Confidence Band

CH-M-65A



n = 16

Slope = 0.01038 units per year.

Mann-Kendall statistic = 57
critical = 45

Increasing trend significant at 95% confidence level (α = 0.025 per tail).

Constituent: Molybdenum Analysis Run 2/26/2026 8:48 AM

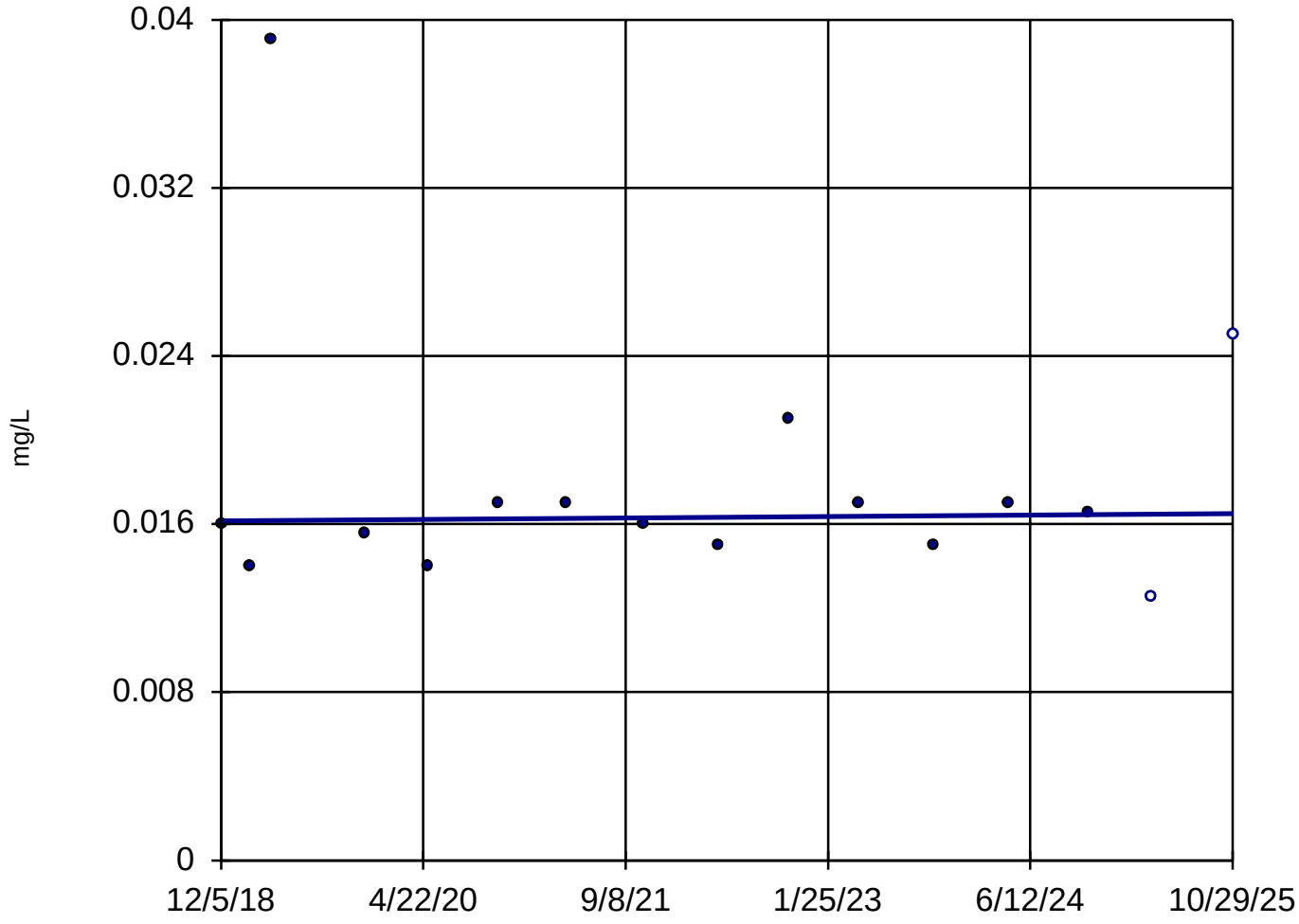
APS - FAP Client: APS Data: APS Stats Table FAP Remedy Selection

Sanitas™ v.10.1.03a For the statistical analyses of ground water by WSP USA only. UG

Hollow symbols indicate censored values.

Sen's Slope Estimator

CH-M-66A



n = 16

Slope = 0.00005067 units per year.

Mann-Kendall statistic = 9
critical = 45

Trend not significant at 95% confidence level (α = 0.025 per tail).

Constituent: Molybdenum Analysis Run 2/26/2026 8:48 AM

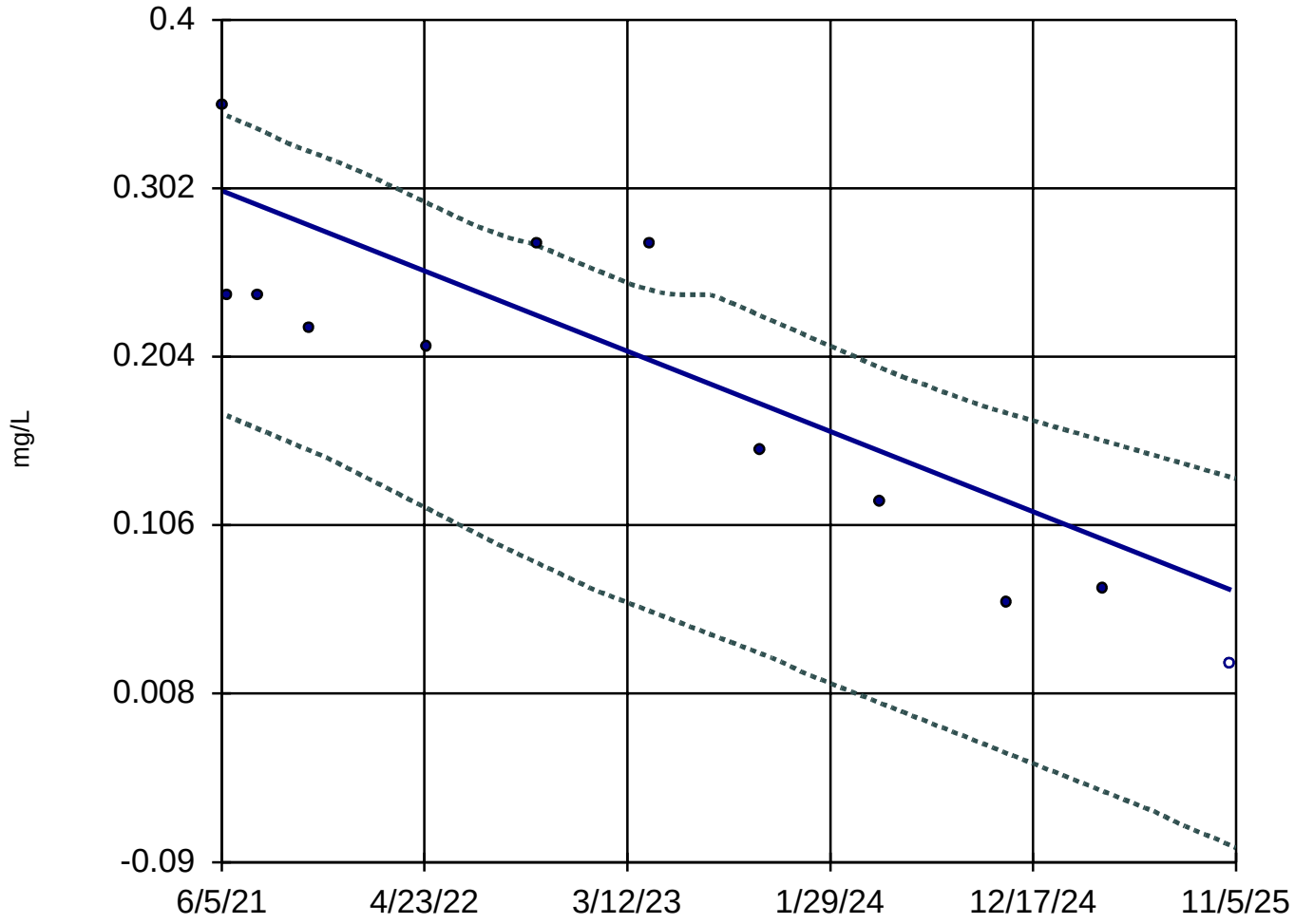
APS - FAP Client: APS Data: APS Stats Table FAP Remedy Selection

Sanitas™ v.10.1.03a For the statistical analyses of ground water by WSP USA only. UG

Hollow symbols indicate censored values.

Sen's Slope and 95% Confidence Band

CH-W-123R



n = 12

Slope = -0.05279 units per year.

Mann-Kendall statistic = -46
critical = -30

Decreasing trend significant at 95% confidence level (α = 0.025 per tail).

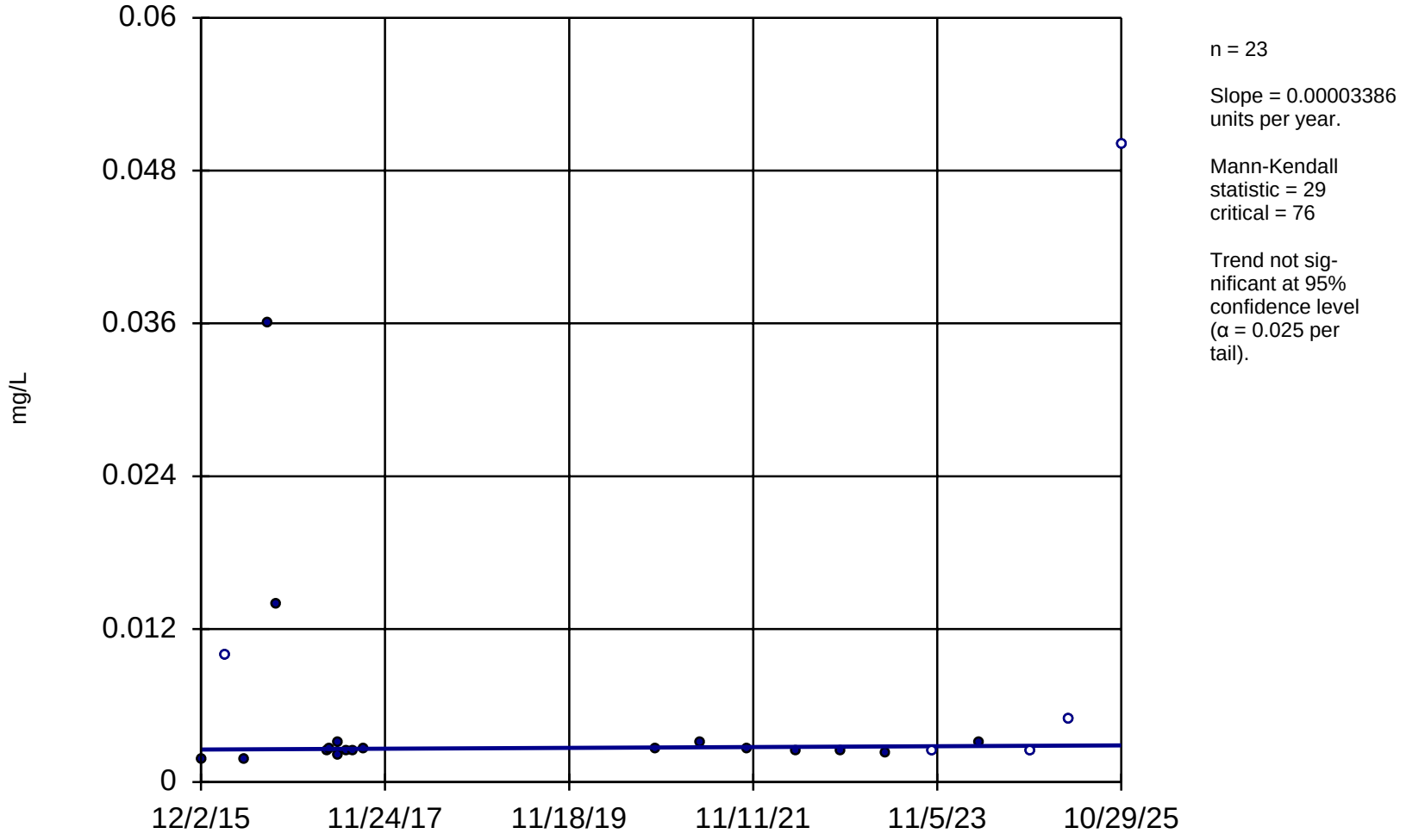
Constituent: Molybdenum Analysis Run 2/26/2026 8:48 AM

APS - FAP Client: APS Data: APS Stats Table FAP Remedy Selection

Hollow symbols indicate censored values.

Sen's Slope Estimator

CH-W-125



n = 23

Slope = 0.00003386 units per year.

Mann-Kendall statistic = 29
critical = 76

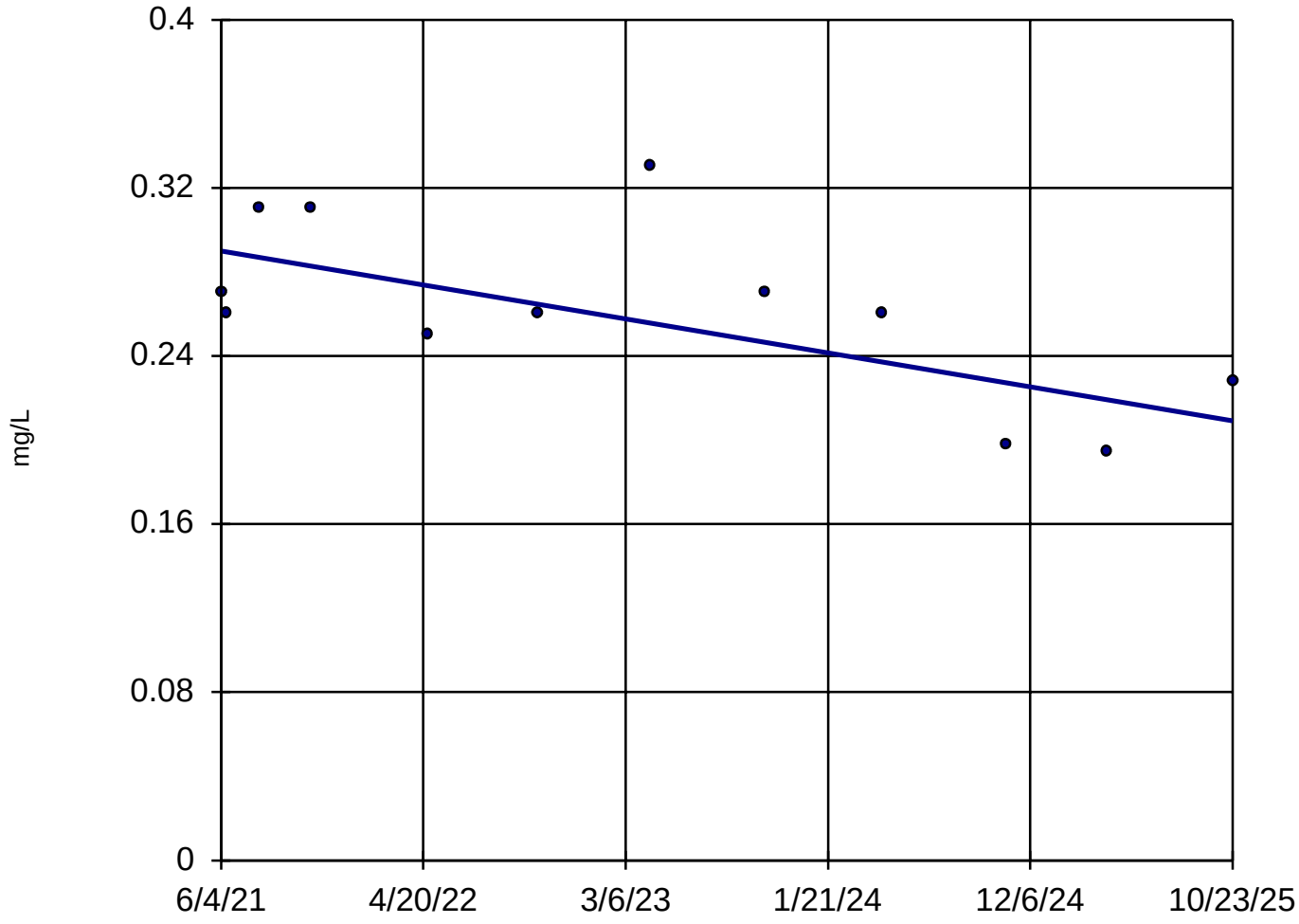
Trend not significant at 95% confidence level (α = 0.025 per tail).

Constituent: Molybdenum Analysis Run 5/26/2026 4:37 PM

APS - FAP Client: APS Data: APS Stats Table FAP Remedy Selection - MW-125

Sen's Slope Estimator

CH-W-126R



n = 12

Slope = -0.01841 units per year.

Mann-Kendall statistic = -27
critical = -30

Trend not significant at 95% confidence level (α = 0.025 per tail).

Constituent: Molybdenum Analysis Run 2/26/2026 8:48 AM

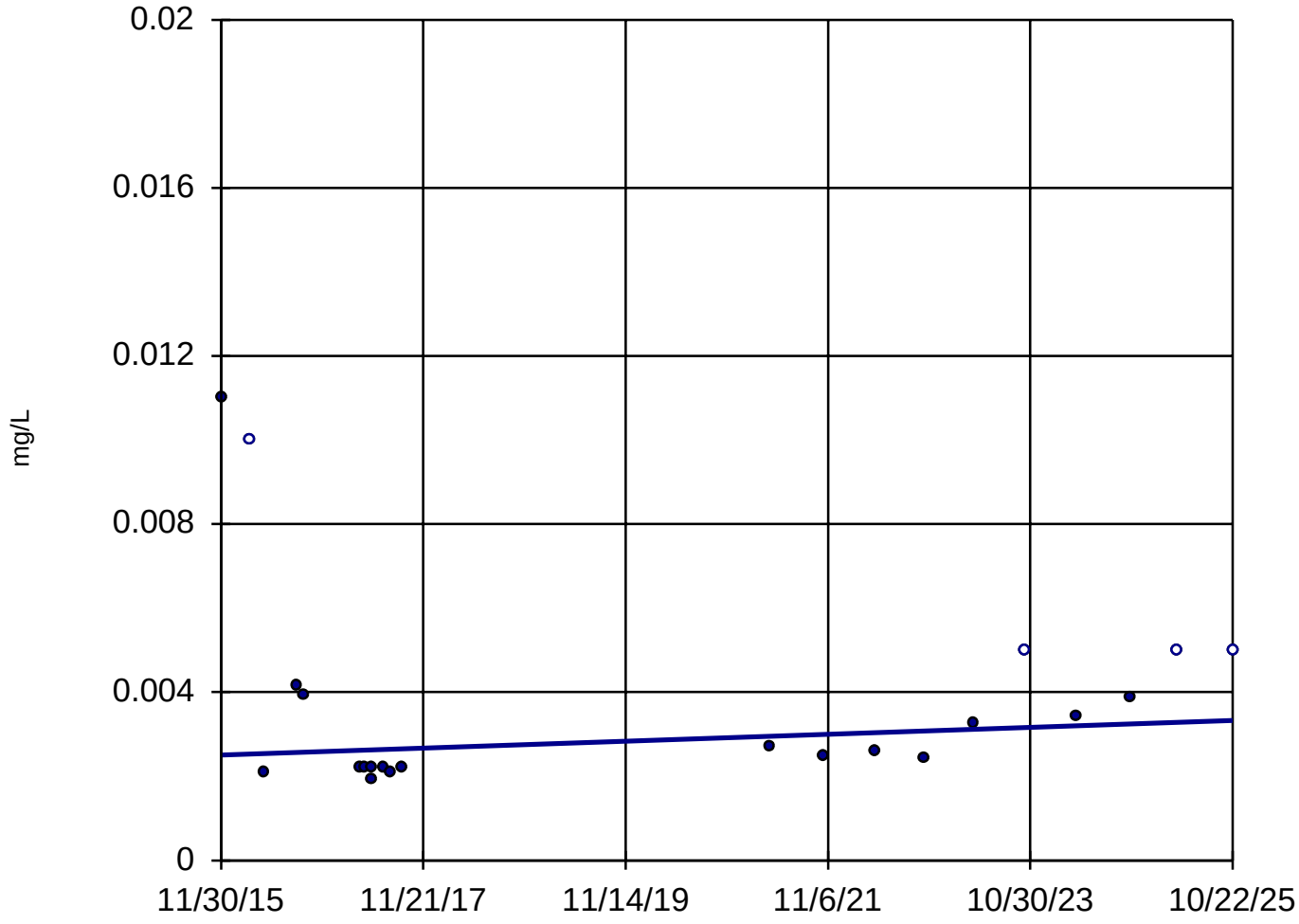
APS - FAP Client: APS Data: APS Stats Table FAP Remedy Selection

Sanitas™ v.10.1.03a For the statistical analyses of ground water by WSP USA only. UG

Hollow symbols indicate censored values.

Sen's Slope Estimator

M-63A



n = 22

Slope = 0.00008286 units per year.

Mann-Kendall statistic = 49
critical = 71

Trend not significant at 95% confidence level (α = 0.025 per tail).

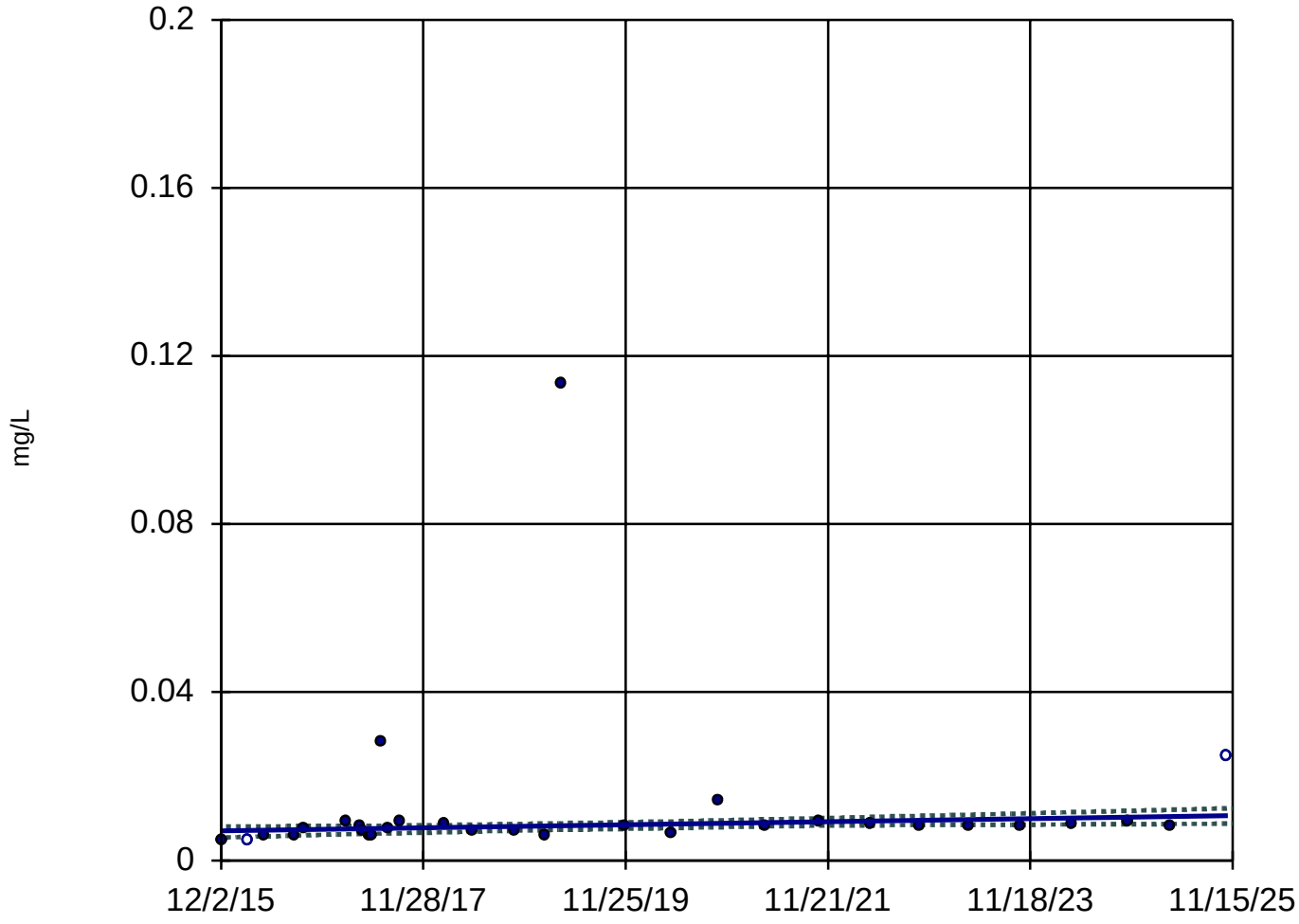
Constituent: Molybdenum Analysis Run 2/26/2026 8:48 AM

APS - FAP Client: APS Data: APS Stats Table FAP Remedy Selection

Hollow symbols indicate censored values.

Sen's Slope and 95% Confidence Band

MW-50A



n = 31

Slope = 0.0003499 units per year.

Mann-Kendall statistic = 180
critical = 117

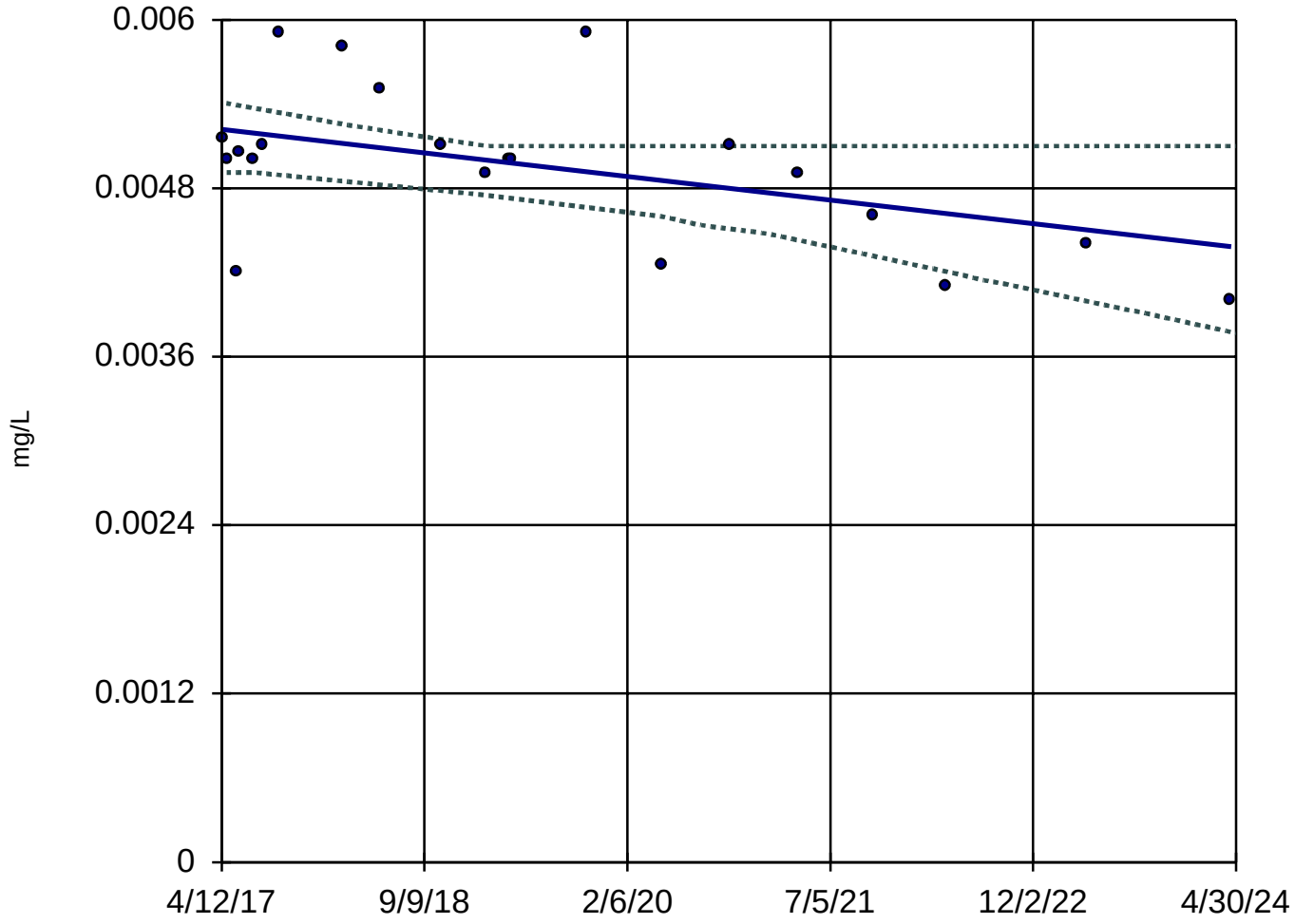
Increasing trend significant at 95% confidence level (α = 0.025 per tail).

Constituent: Molybdenum Analysis Run 2/26/2026 8:48 AM

APS - FAP Client: APS Data: APS Stats Table FAP Remedy Selection

Sen's Slope and 95% Confidence Band

CH-M-64A (bg)



n = 21

Slope = -0.0001188 units per year.

Mann-Kendall statistic = -75
critical = -66

Decreasing trend significant at 95% confidence level (α = 0.025 per tail).

Constituent: Molybdenum Analysis Run 2/26/2026 8:49 AM

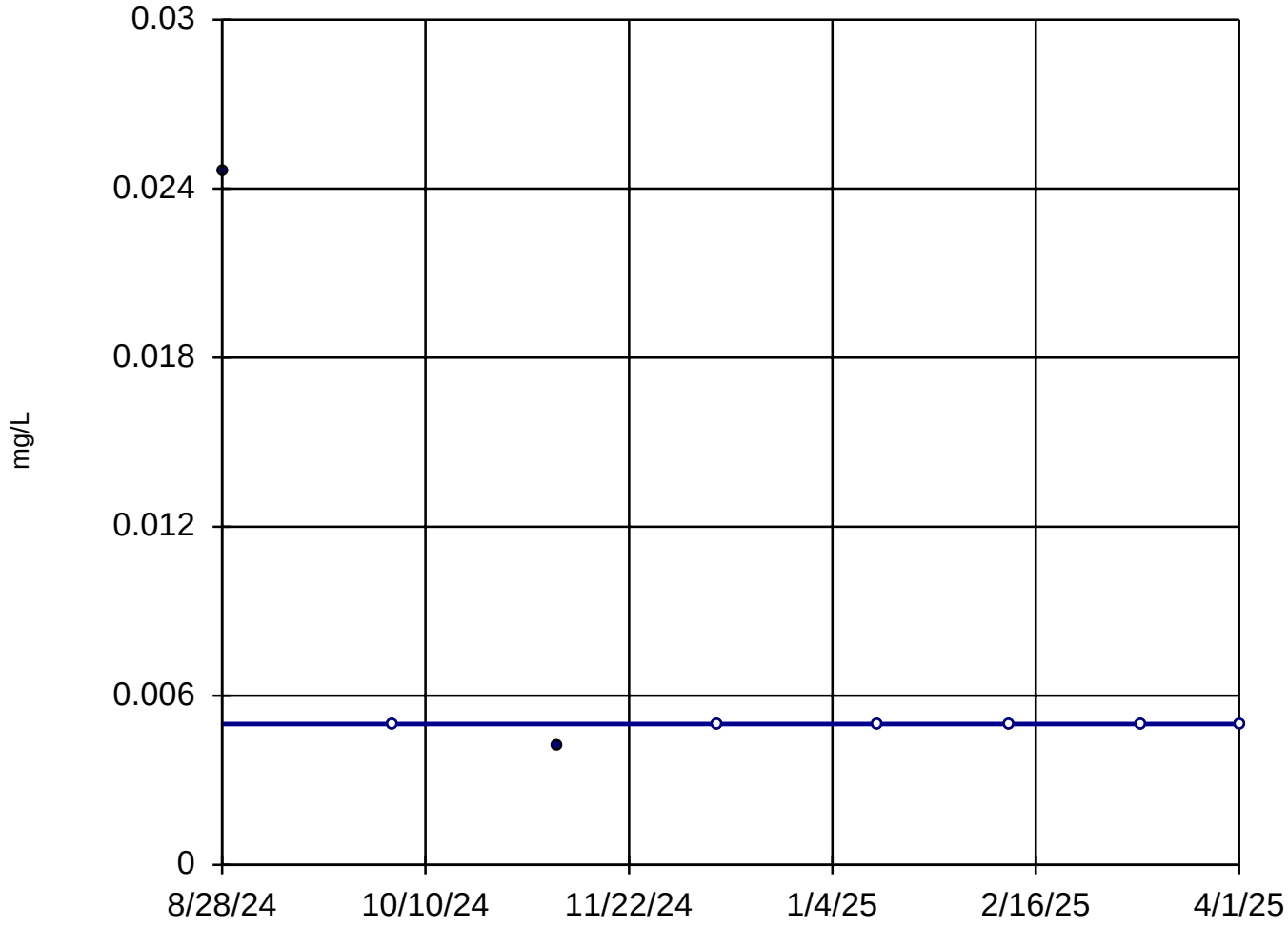
APS - FAP Client: APS Data: APS Stats Table FAP Remedy Selection

Sanitas™ v.10.1.06 For the statistical analyses of ground water by WSP USA only. EPA

Hollow symbols indicate censored values.

Sen's Slope Estimator

MW-83A



n = 8

Slope = 0
units per year.

Mann-Kendall
statistic = -3
critical = -17

Trend not sig-
nificant at 95%
confidence level
(α = 0.025 per
tail).

Constituent: Molybdenum Analysis Run 5/5/2026 11:36 AM

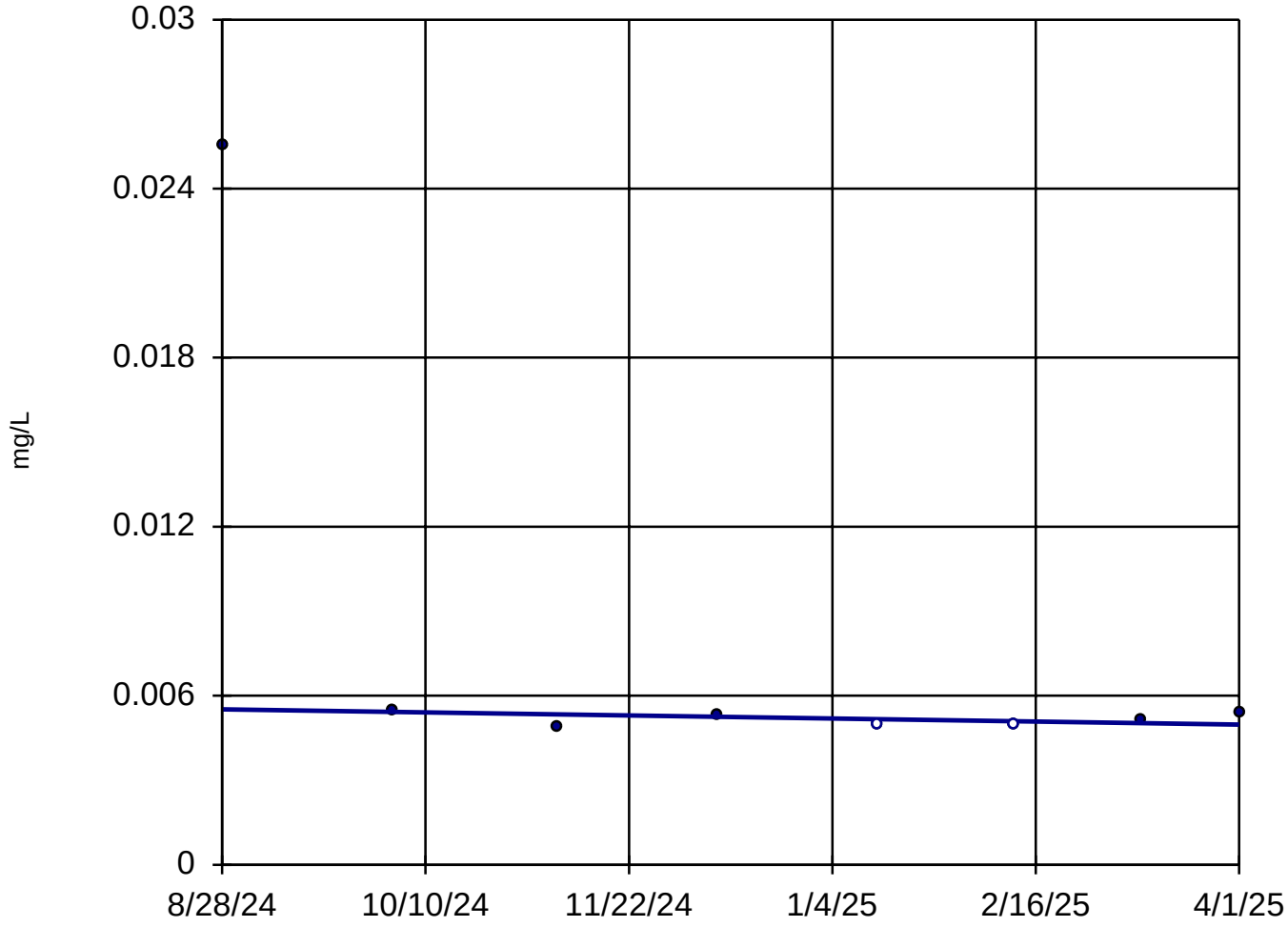
Cholla - Evap Wells Client: APS Data: APS Trend Plots - Evap Wells

Sanitas™ v.10.1.06 For the statistical analyses of ground water by WSP USA only. EPA

Hollow symbols indicate censored values.

Sen's Slope Estimator

MW-84A



n = 8

Slope = -0.0009052 units per year.

Mann-Kendall statistic = -5
critical = -17

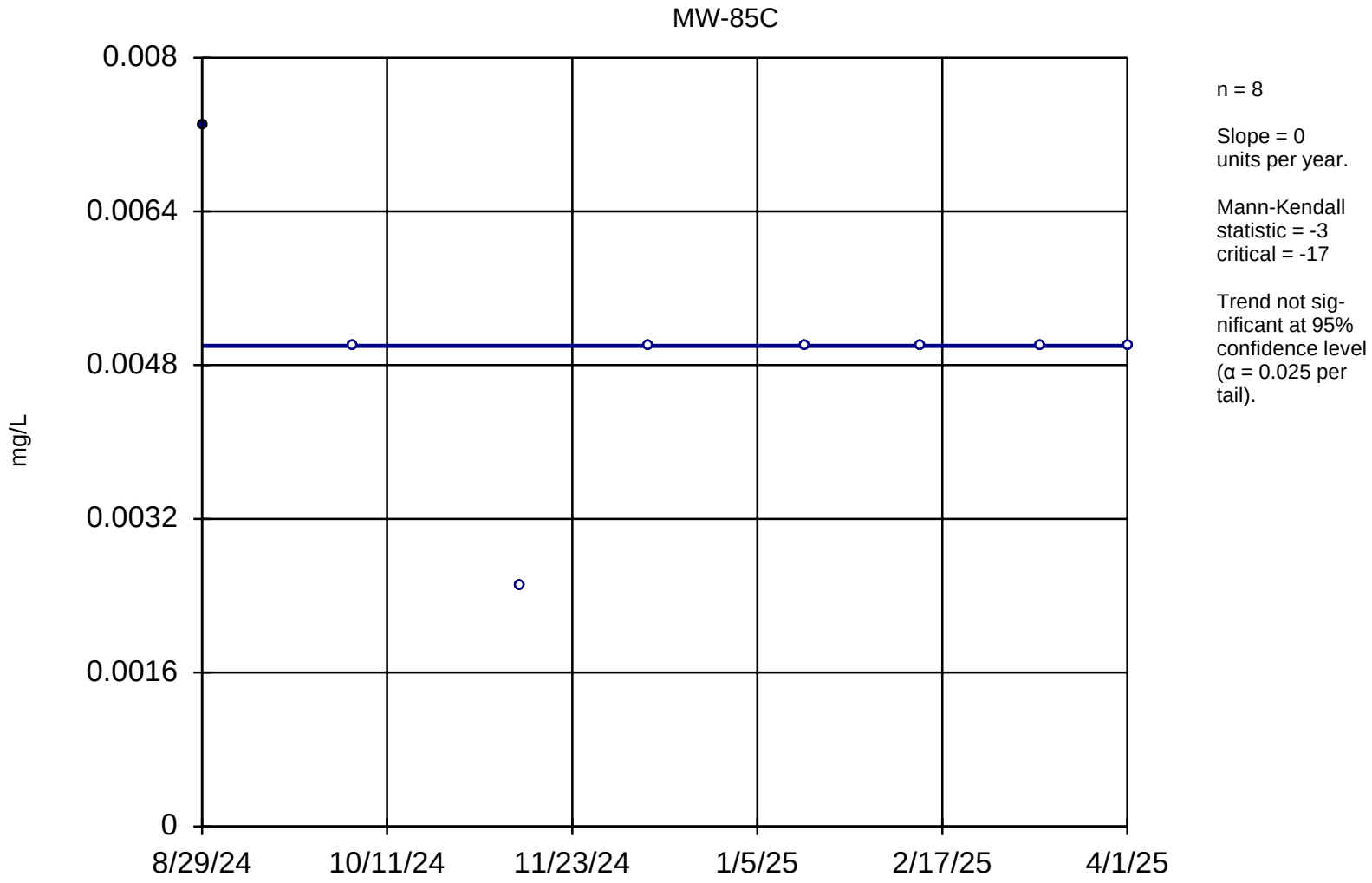
Trend not significant at 95% confidence level (α = 0.025 per tail).

Constituent: Molybdenum Analysis Run 5/5/2026 11:36 AM

Cholla - Evap Wells Client: APS Data: APS Trend Plots - Evap Wells

Sanitas™ v.10.1.06 For the statistical analyses of ground water by WSP USA only. EPA
Hollow symbols indicate censored values.

Sen's Slope Estimator

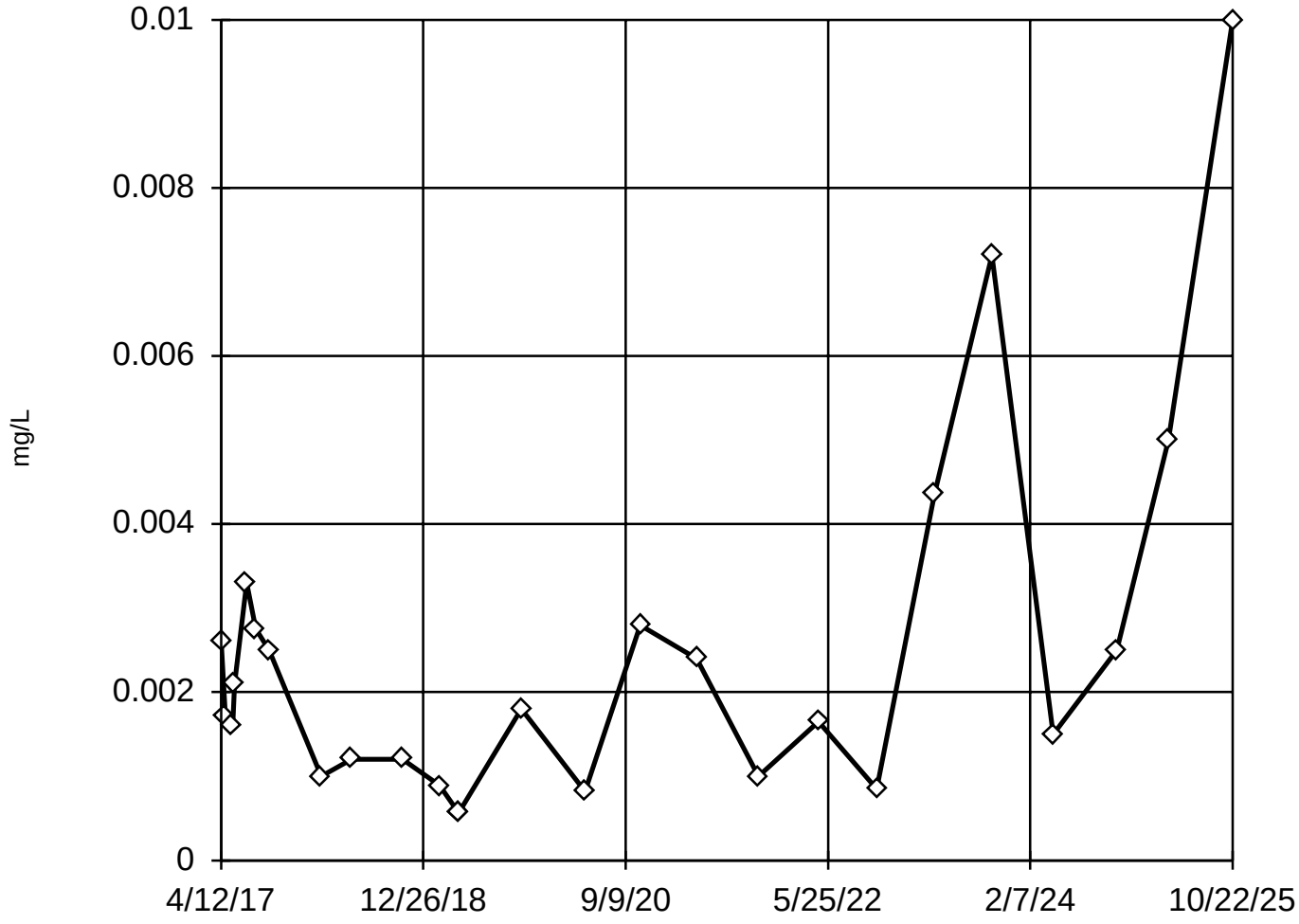


Constituent: Molybdenum Analysis Run 5/5/2026 11:36 AM

Cholla - Evap Wells Client: APS Data: APS Trend Plots - Evap Wells

EPA 1989 Outlier Screening

CH-M-64A (bg)



n = 26

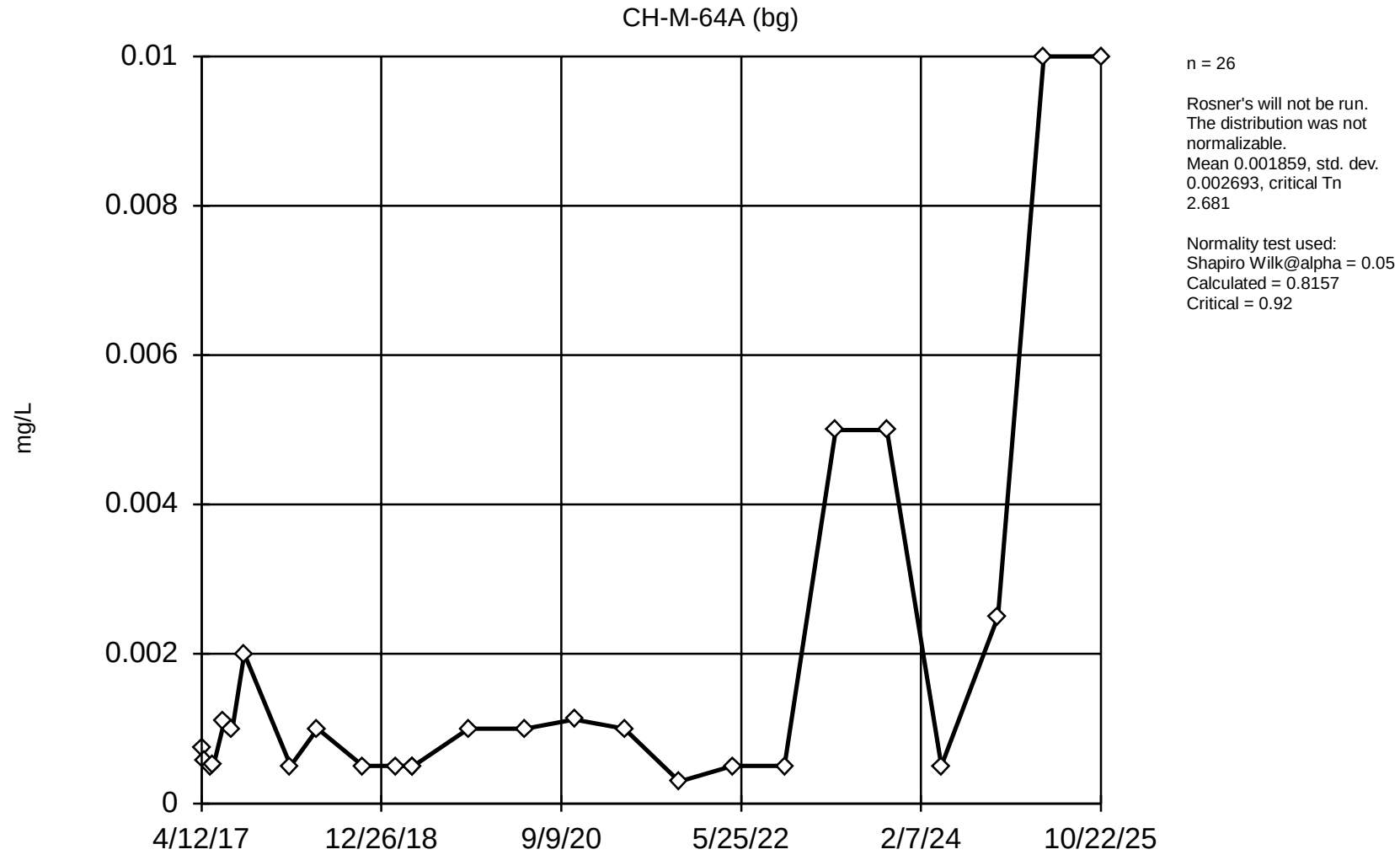
No statistical outliers.
Mean 0.002457, std. dev. 0.002154, critical Tn 2.681

Normality test used:
Shapiro Wilk@alpha = 0.05
Calculated = 0.9705
Critical = 0.92 (after natural log transformation)
The distribution was found to be log-normal.

Constituent: Arsenic Analysis Run 2/23/2026 2:41 PM

APS - FAP Client: WSP Data: APS Stats Table FAP Remedy Selection

EPA Screening (suspected outliers for Rosner's Test)



n = 26

Rosner's will not be run.
The distribution was not normalizable.
Mean 0.001859, std. dev. 0.002693, critical Tn 2.681

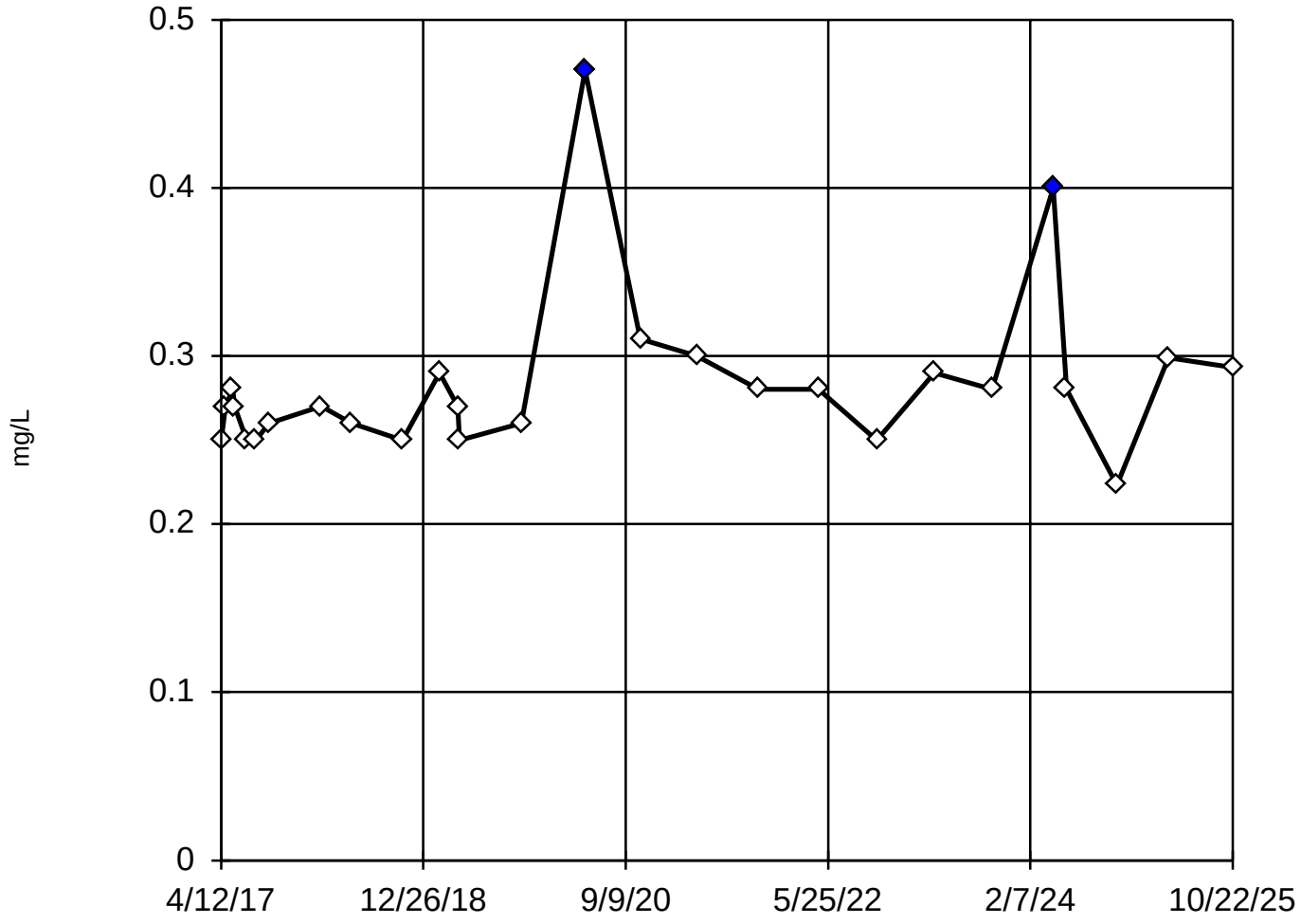
Normality test used:
Shapiro Wilk@alpha = 0.05
Calculated = 0.8157
Critical = 0.92

Constituent: Cobalt Analysis Run 2/23/2026 10:33 AM

APS - BAP Client: WSP Data: APS Stats Table BAP Remedy Selection

Rosner's Outlier Test

CH-M-64A (bg)



n = 27

Statistical outliers are drawn as solid.

k = 2
r = 3.846
Tabulated value = 3.272
Alpha = 0.01

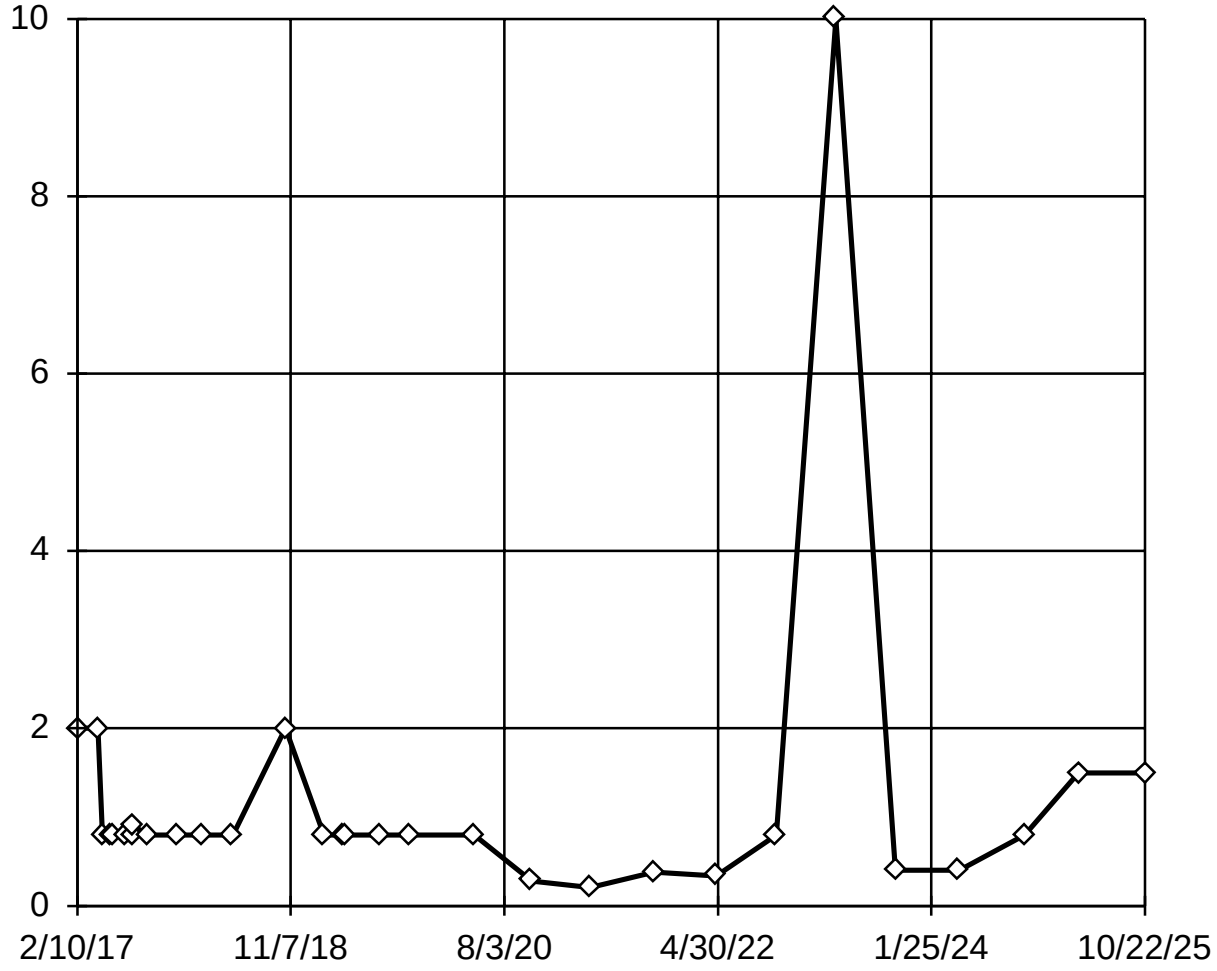
Normality test used:
Shapiro Wilk@alpha = 0.05
Calculated = 0.9617
Critical = 0.918
The distribution, after removal of suspect values, was found to be normally distributed.

Constituent: Lithium Analysis Run 2/23/2026 10:33 AM

APS - BAP Client: WSP Data: APS Stats Table BAP Remedy Selection

EPA 1989 Outlier Screening

CH-M-64A (bg)



n = 30

No statistical outliers.
The distribution was not normalizable.
Mean 1.184, std. dev. 1.731, critical Tn 2.745.
After removing suspect data: mean 0.8796, std. dev. 0.4801, Tn 2.73.

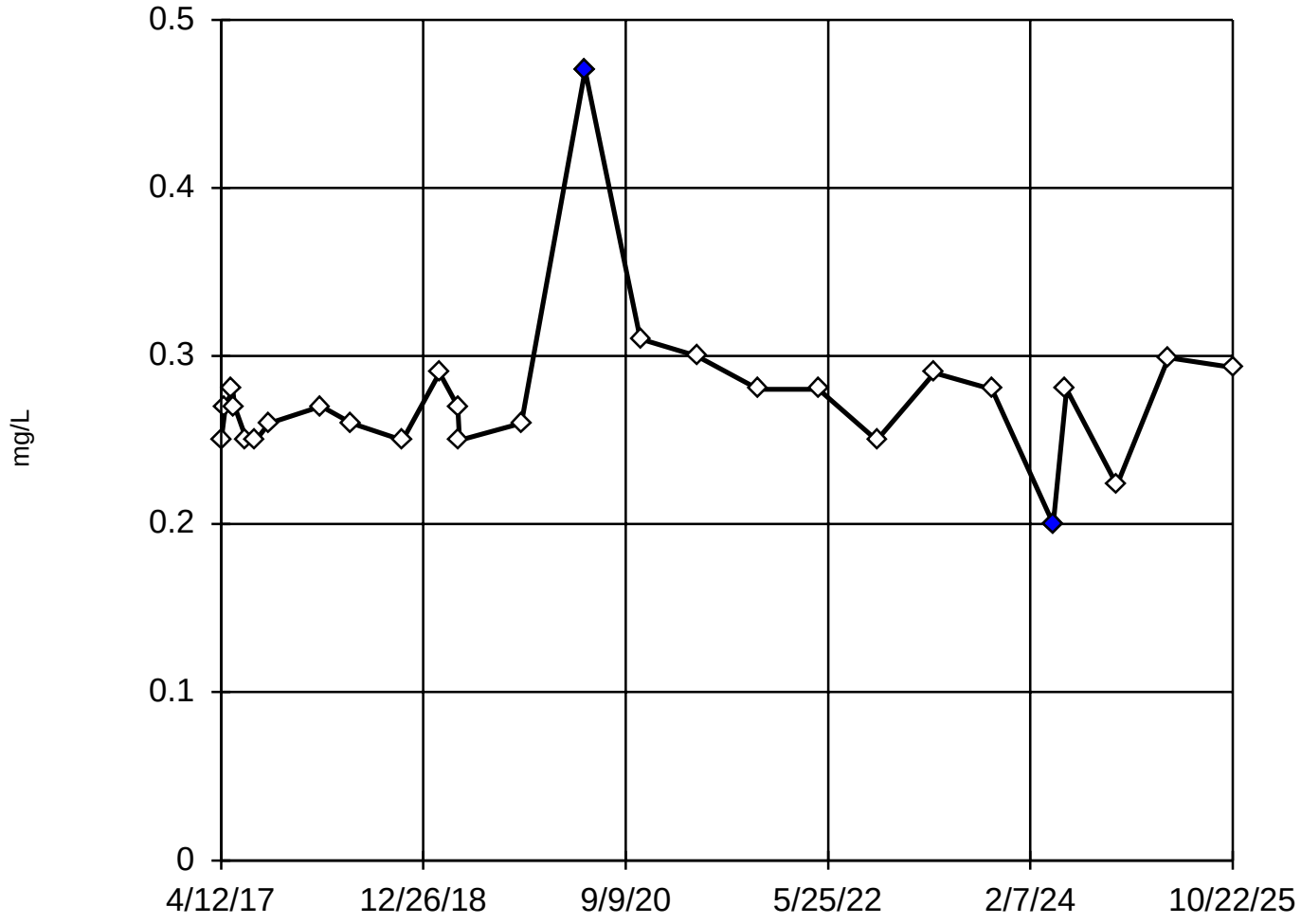
Normality test used:
Shapiro Wilk@alpha = 0.05
Calculated = 0.8457
Critical = 0.926

Constituent: Fluoride Analysis Run 2/23/2026 2:41 PM

APS - FAP Client: WSP Data: APS Stats Table FAP Remedy Selection

EPA 1989 Outlier Screening

CH-M-64A (bg)



n = 27

Statistical outliers are drawn as solid.
Mean 0.2754, std. dev. 0.04566, critical Tn 2.698.
After removing suspect data: mean 0.2679, std. dev. 0.02438, Tn 2.681; mean 0.2706, std. dev. 0.02048, Tn 2.663.

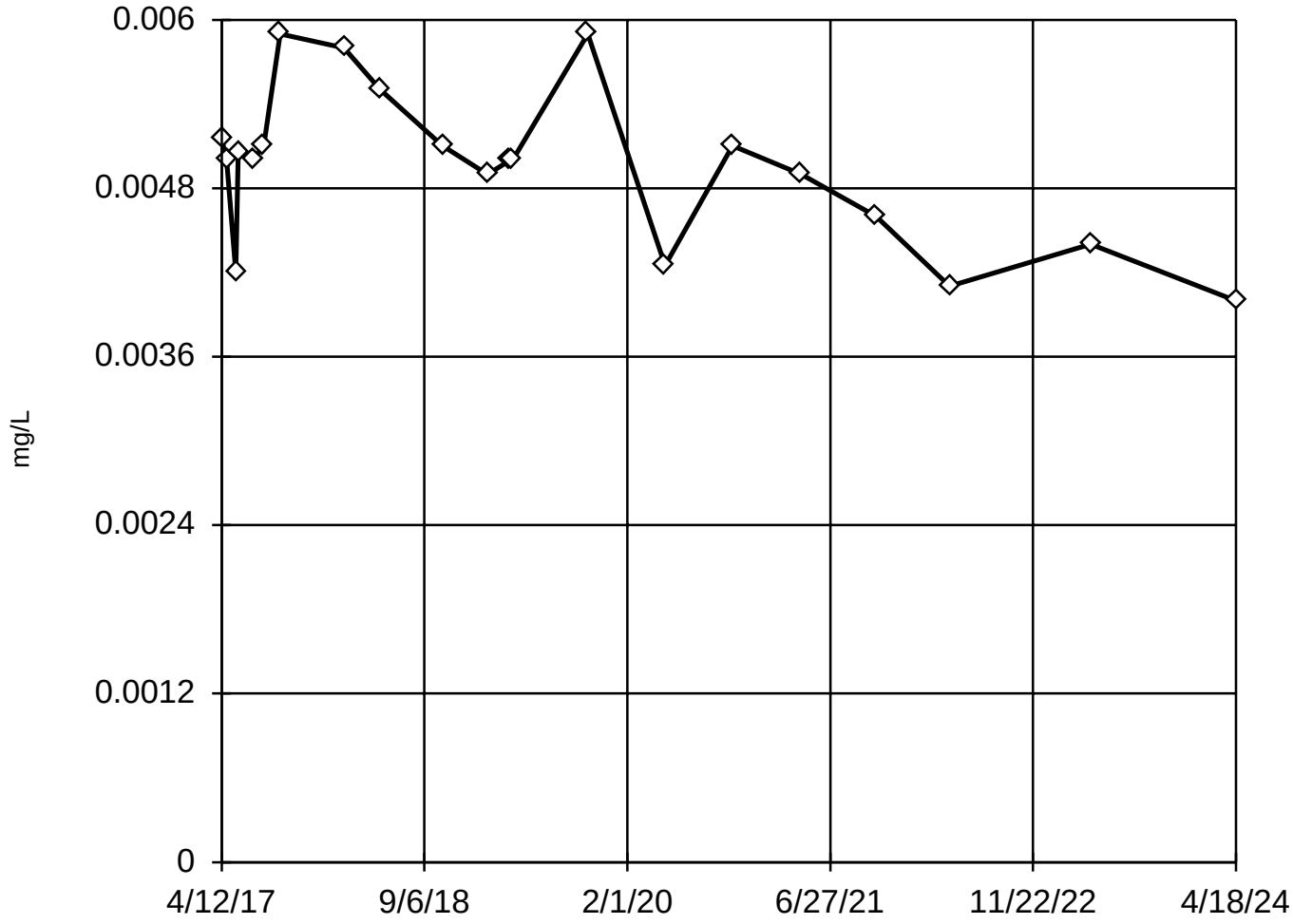
Normality test used:
Shapiro Wilk@alpha = 0.05
Calculated = 0.9617
Critical = 0.918
The distribution, after removal of suspect values, was found to be normally distributed.

Constituent: Lithium Analysis Run 2/23/2026 2:41 PM

APS - FAP Client: WSP Data: APS Stats Table FAP Remedy Selection

EPA 1989 Outlier Screening

CH-M-64A (bg)



n = 21

No statistical outliers.
Mean 0.00495, std. dev. 0.0005507, critical Tn 2.58

Normality test used:
Shapiro Wilk@alpha = 0.05
Calculated = 0.9289
Critical = 0.908
The distribution was found to be normally distrib-uted.

Constituent: Molybdenum Analysis Run 2/23/2026 2:41 PM

APS - FAP Client: WSP Data: APS Stats Table FAP Remedy Selection

Confidence Interval

APS - BAP Client: WSP Data: APS Stats Table BAP Remedy Selection Printed 2/23/2026, 1:33 PM

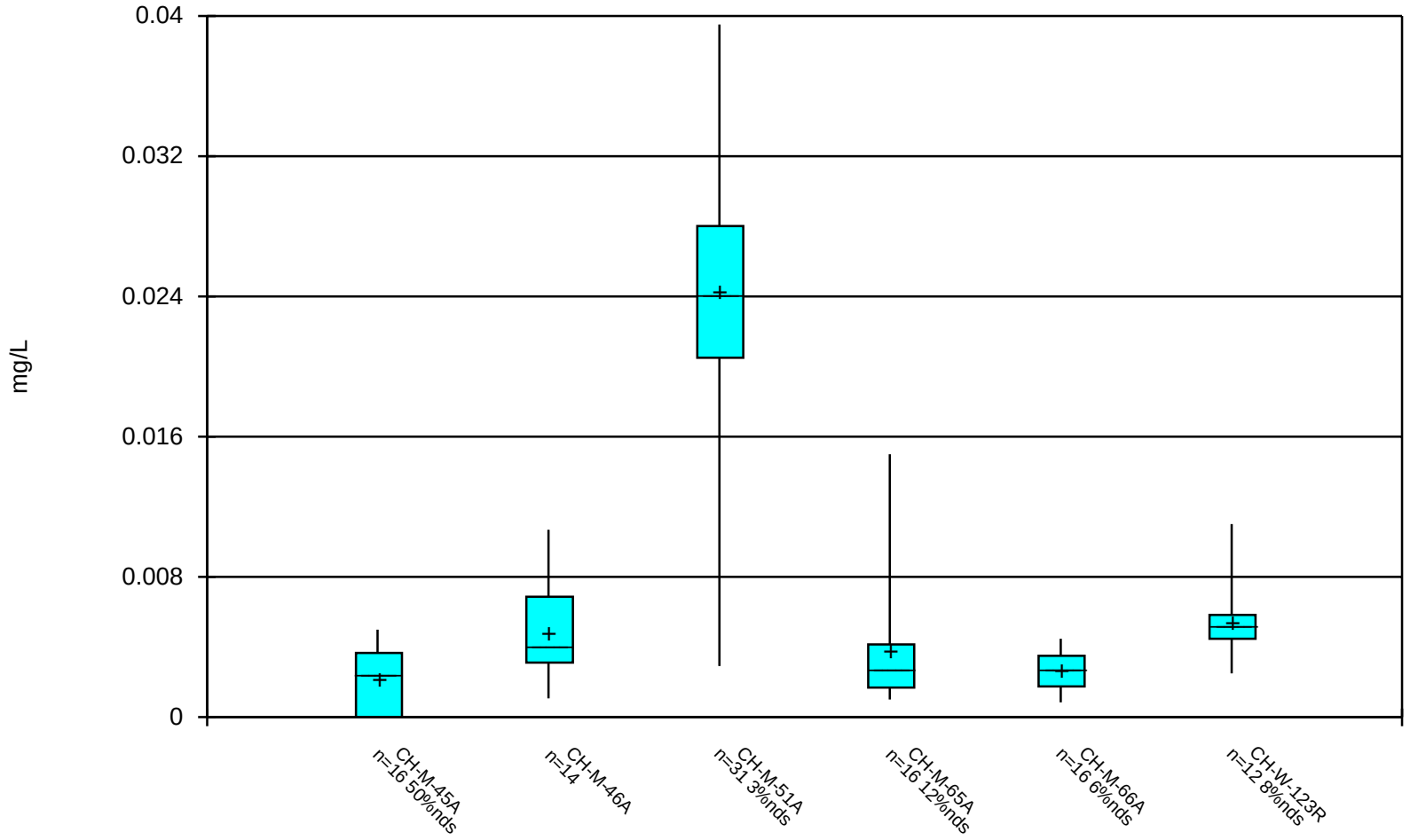
Constituent	Well	Upper Lim.	Lower Lim.	Compliance	Sig.	N	%NDs	Transform	Alpha	Method
Boron (mg/l)	CH-M-64A ...	1.201	1.11	1.3	No	27	0	No	0.05	Param.
Boron (mg/l)	CH-W-301	0.95	0.63	1.3	No	20	0	No	0.05	NP (normality)
Boron (mg/l)	CH-W-302	0.6265	0.6005	1.3	No	20	0	No	0.05	Param.
Boron (mg/l)	**CH-W-303**	**3.562**	**2.914**	**1.3**	**Yes**	**17**	**0**	**No**	**0.05**	**Param.**
Boron (mg/l)	CH-W-305	0.3709	0.3384	1.3	No	35	0	No	0.05	Param.
Boron (mg/l)	CH-W-306	1.01	0.977	1.3	No	35	0	No	0.05	NP (normality)
Boron (mg/l)	CH-W-314	1.243	1.099	1.3	No	35	0	No	0.05	Param.
Boron (mg/l)	**M-52A**	**3.698**	**3.434**	**1.3**	**Yes**	**31**	**0**	**No**	**0.05**	**Param.**
Boron (mg/l)	**M-53A**	**3.479**	**3.192**	**1.3**	**Yes**	**31**	**0**	**No**	**0.05**	**Param.**
Boron (mg/l)	M-55A	0.4302	0.4151	1.3	No	27	0	No	0.05	Param.
Boron (mg/l)	**MW-69A**	**3.519**	**3.212**	**1.3**	**Yes**	**11**	**0**	**No**	**0.05**	**Param.**
Boron (mg/l)	**MW-70M**	**2.502**	**2.274**	**1.3**	**Yes**	**11**	**0**	**No**	**0.05**	**Param.**
Boron (mg/l)	**MW-71A**	**3.725**	**3.492**	**1.3**	**Yes**	**8**	**0**	**No**	**0.05**	**Param.**
Boron (mg/l)	**MW-73A**	**4.974**	**4.183**	**1.3**	**Yes**	**8**	**0**	**No**	**0.05**	**Param.**
Boron (mg/l)	**MW-74M**	**2.257**	**1.971**	**1.3**	**Yes**	**9**	**0**	**No**	**0.05**	**Param.**
Boron (mg/l)	MW-77A	0.7927	0.7324	1.3	No	11	0	No	0.05	Param.
Boron (mg/l)	MW-78A	0.438	0.41	1.3	No	11	0	No	0.006	NP (normality)
Cobalt (mg/L)	CH-M-64A ...	0.0011	0.00051	0.006	No	26	76.92	No	0.05	NP (NDs)
Cobalt (mg/L)	**CH-W-301**	**0.02242**	**0.02069**	**0.006**	**Yes**	**16**	**0**	**x^5**	**0.05**	**Param.**
Cobalt (mg/L)	CH-W-302	0.0066	0.00545	0.006	No	16	0	No	0.05	NP (normality)
Cobalt (mg/L)	**CH-W-303**	**0.02165**	**0.01796**	**0.006**	**Yes**	**12**	**0**	**No**	**0.05**	**Param.**
Cobalt (mg/L)	**CH-W-305**	**0.01751**	**0.01613**	**0.006**	**Yes**	**32**	**0**	**x^3**	**0.05**	**Param.**
Cobalt (mg/L)	CH-W-306	0.0025	0.002	0.006	No	31	22.58	No	0.05	NP (normality)
Cobalt (mg/L)	**CH-W-314**	**0.0245**	**0.014**	**0.006**	**Yes**	**32**	**0**	**No**	**0.05**	**NP (normality)**
Cobalt (mg/L)	**M-52A**	**0.05217**	**0.04441**	**0.006**	**Yes**	**32**	**0**	**No**	**0.05**	**Param.**
Cobalt (mg/L)	**M-53A**	**0.01516**	**0.01227**	**0.006**	**Yes**	**32**	**0**	**No**	**0.05**	**Param.**
Cobalt (mg/L)	M-55A	0.002	0.00057	0.006	No	29	62.07	No	0.05	NP (NDs)
Cobalt (mg/L)	**MW-69A**	**0.01967**	**0.01458**	**0.006**	**Yes**	**12**	**0**	**No**	**0.05**	**Param.**
Cobalt (mg/L)	**MW-70M**	**0.02045**	**0.01598**	**0.006**	**Yes**	**12**	**0**	**No**	**0.05**	**Param.**
Cobalt (mg/L)	**MW-71A**	**0.0156**	**0.01165**	**0.006**	**Yes**	**9**	**0**	**No**	**0.05**	**Param.**
Cobalt (mg/L)	**MW-73A**	**0.01357**	**0.009605**	**0.006**	**Yes**	**9**	**0**	**No**	**0.05**	**Param.**
Cobalt (mg/L)	**MW-74M**	**0.01705**	**0.01361**	**0.006**	**Yes**	**10**	**0**	**No**	**0.05**	**Param.**
Cobalt (mg/L)	MW-77A	0.004939	0.004401	0.006	No	12	0	No	0.05	Param.
Cobalt (mg/L)	MW-78A	0.002481	0.001909	0.006	No	12	33.33	No	0.05	Param.
Lithium (mg/L)	CH-M-64A ...	0.28	0.26	0.418	No	26	0	No	0.05	NP (normality)
Lithium (mg/L)	**CH-W-301**	**0.5803**	**0.5212**	**0.418**	**Yes**	**16**	**0**	**No**	**0.05**	**Param.**
Lithium (mg/L)	CH-W-302	0.4043	0.3602	0.418	No	16	6.25	No	0.05	Param.
Lithium (mg/L)	CH-W-303	0.4149	0.3411	0.418	No	12	8.333	No	0.05	Param.
Lithium (mg/L)	CH-W-305	0.22	0.21	0.418	No	32	0	No	0.05	NP (normality)
Lithium (mg/L)	**CH-W-306**	**0.7701**	**0.6836**	**0.418**	**Yes**	**31**	**0**	**sqrt(x)**	**0.05**	**Param.**
Lithium (mg/L)	CH-W-314	0.3255	0.3058	0.418	No	32	0	sqrt(x)	0.05	Param.
Lithium (mg/L)	M-52A	0.26	0.23	0.418	No	32	3.125	No	0.05	NP (normality)
Lithium (mg/L)	M-53A	0.21	0.2	0.418	No	32	28.13	No	0.05	NP (normality)
Lithium (mg/L)	M-55A	0.4248	0.3828	0.418	No	29	3.448	No	0.05	Param.
Lithium (mg/L)	MW-69A	0.23	0.191	0.418	No	12	8.333	No	0.05	NP (normality)
Lithium (mg/L)	MW-70M	0.21	0.19	0.418	No	12	8.333	No	0.05	NP (normality)
Lithium (mg/L)	MW-71A	0.2135	0.1807	0.418	No	9	0	No	0.05	Param.
Lithium (mg/L)	MW-73A	0.2501	0.1919	0.418	No	9	0	No	0.05	Param.
Lithium (mg/L)	MW-74M	0.2512	0.2154	0.418	No	10	0	No	0.05	Param.
Lithium (mg/L)	**MW-77A**	**0.5491**	**0.4876**	**0.418**	**Yes**	**12**	**0**	**No**	**0.05**	**Param.**

Confidence Interval

APS - BAP Client: WSP Data: APS Stats Table BAP Remedy Selection Printed 2/23/2026, 1:33 PM

Constituent	Well	Upper Lim.	Lower Lim.	Compliance	Sig.	N	%NDs	Transform	Alpha	Method
Lithium (mg/L)	MW-78A	0.2464	0.2183	0.418	No	12	0	No	0.05	Param.
Sulfate (mg/l)	**CH-M-64A ...**	**4300**	**3850**	**250**	**Yes**	**27**	**0**	**No**	**0.05**	**NP (normality)**
Sulfate (mg/l)	**CH-W-301**	**3644**	**3350**	**250**	**Yes**	**20**	**0**	**No**	**0.05**	**Param.**
Sulfate (mg/l)	**CH-W-302**	**2302**	**2210**	**250**	**Yes**	**20**	**0**	**No**	**0.05**	**Param.**
Sulfate (mg/l)	**CH-W-303**	**3385**	**2960**	**250**	**Yes**	**17**	**0**	**No**	**0.05**	**Param.**
Sulfate (mg/l)	**CH-W-305**	**2400**	**2300**	**250**	**Yes**	**36**	**0**	**No**	**0.05**	**NP (normality)**
Sulfate (mg/l)	**CH-W-306**	**12000**	**11000**	**250**	**Yes**	**36**	**0**	**No**	**0.05**	**NP (normality)**
Sulfate (mg/l)	**CH-W-314**	**2300**	**2200**	**250**	**Yes**	**36**	**0**	**No**	**0.05**	**NP (normality)**
Sulfate (mg/l)	**M-52A**	**2930**	**2790**	**250**	**Yes**	**31**	**0**	**No**	**0.05**	**NP (normality)**
Sulfate (mg/l)	**M-53A**	**3050**	**2900**	**250**	**Yes**	**31**	**0**	**No**	**0.05**	**NP (normality)**
Sulfate (mg/l)	**M-55A**	**3524**	**3408**	**250**	**Yes**	**27**	**0**	**No**	**0.05**	**Param.**
Sulfate (mg/l)	**MW-69A**	**3100**	**2880**	**250**	**Yes**	**11**	**0**	**No**	**0.006**	**NP (normality)**
Sulfate (mg/l)	**MW-70M**	**2900**	**2600**	**250**	**Yes**	**11**	**0**	**No**	**0.006**	**NP (normality)**
Sulfate (mg/l)	**MW-71A**	**4276**	**2255**	**250**	**Yes**	**8**	**0**	**x^(1/3)**	**0.05**	**Param.**
Sulfate (mg/l)	**MW-73A**	**3614**	**3133**	**250**	**Yes**	**8**	**0**	**No**	**0.05**	**Param.**
Sulfate (mg/l)	**MW-74M**	**2719**	**2532**	**250**	**Yes**	**9**	**0**	**x^5**	**0.05**	**Param.**
Sulfate (mg/l)	**MW-77A**	**4413**	**4007**	**250**	**Yes**	**11**	**0**	**No**	**0.05**	**Param.**
Sulfate (mg/l)	**MW-78A**	**2423**	**2303**	**250**	**Yes**	**11**	**0**	**No**	**0.05**	**Param.**

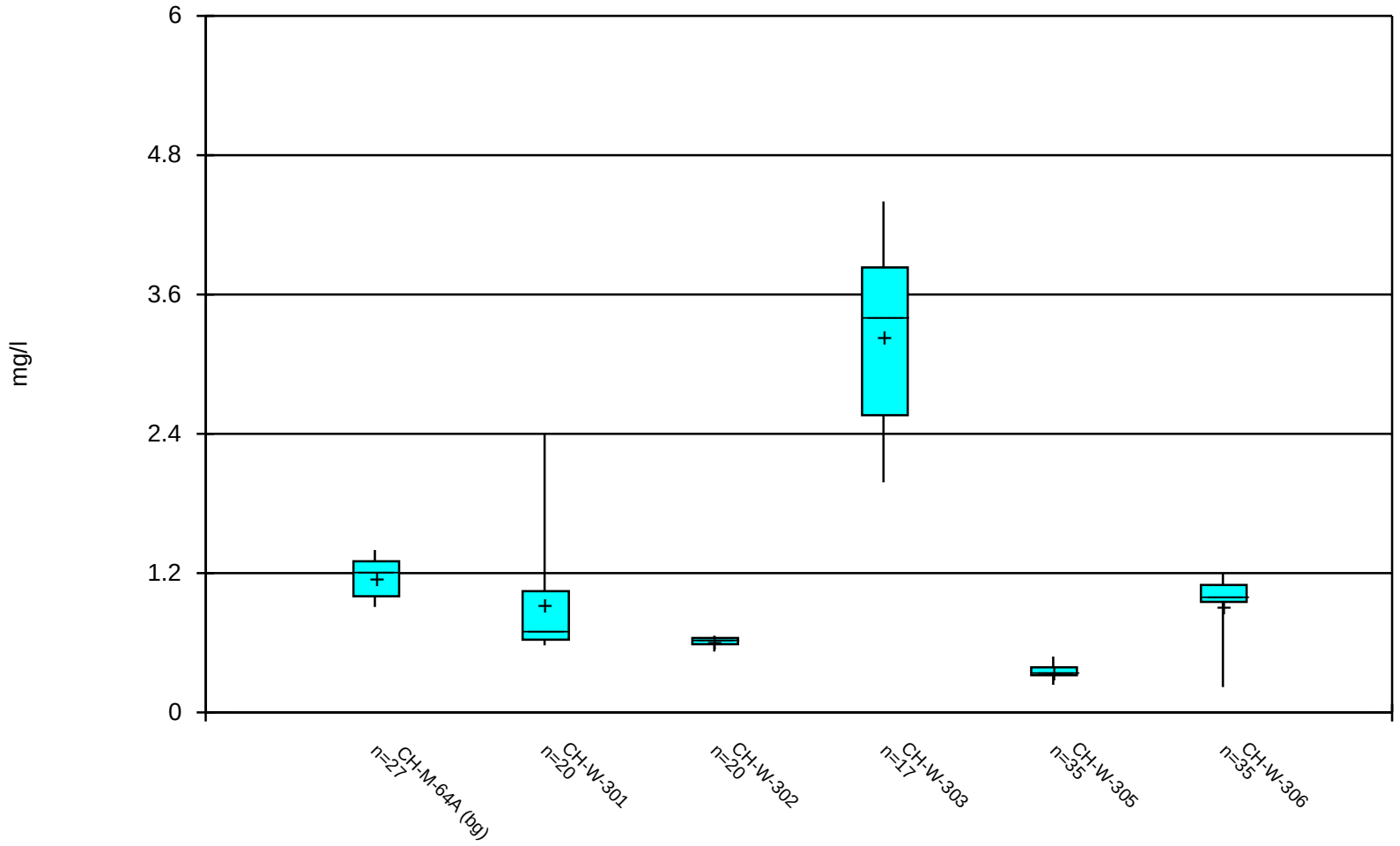
Box & Whiskers Plot



Constituent: Arsenic Analysis Run 2/23/2026 2:43 PM

Cholla Power Plant Client: WSP Data: APS Stats Table FAP Remedy Selection

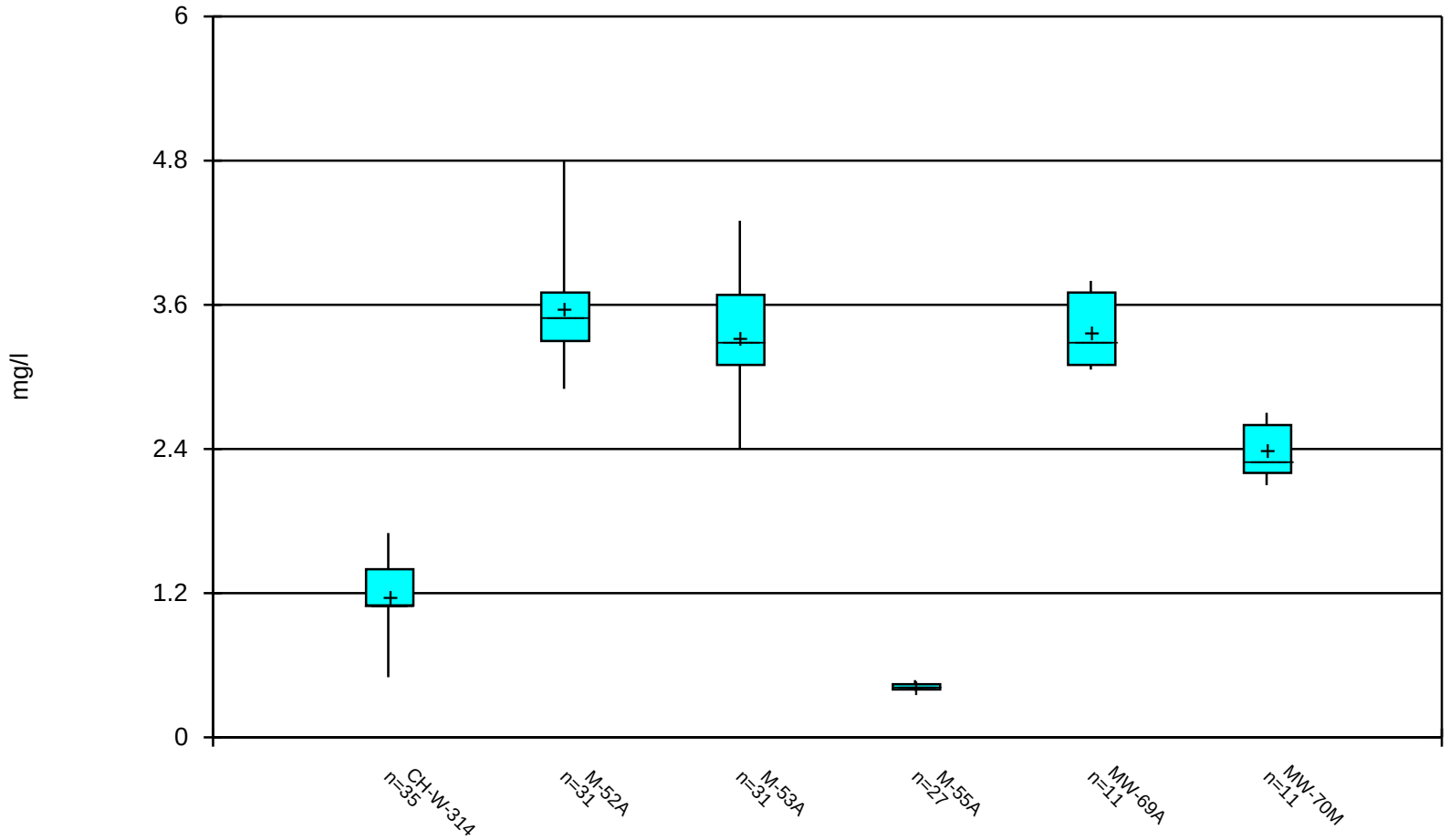
Box & Whiskers Plot



Constituent: Boron Analysis Run 2/23/2026 1:26 PM

Cholla Power Plant Client: WSP Data: APS Stats Table BAP Remedy Selection

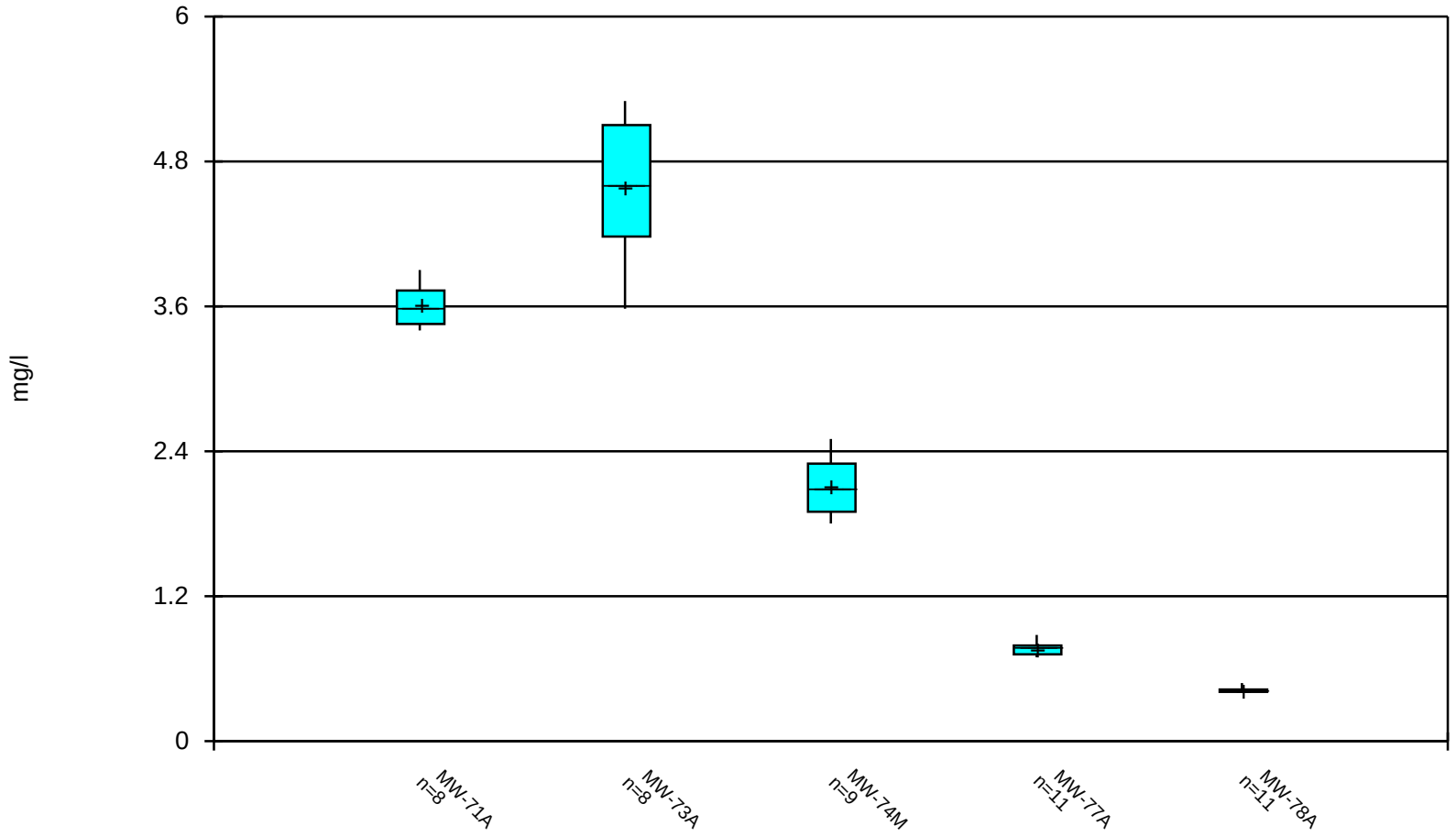
Box & Whiskers Plot



Constituent: Boron Analysis Run 2/23/2026 1:26 PM

Cholla Power Plant Client: WSP Data: APS Stats Table BAP Remedy Selection

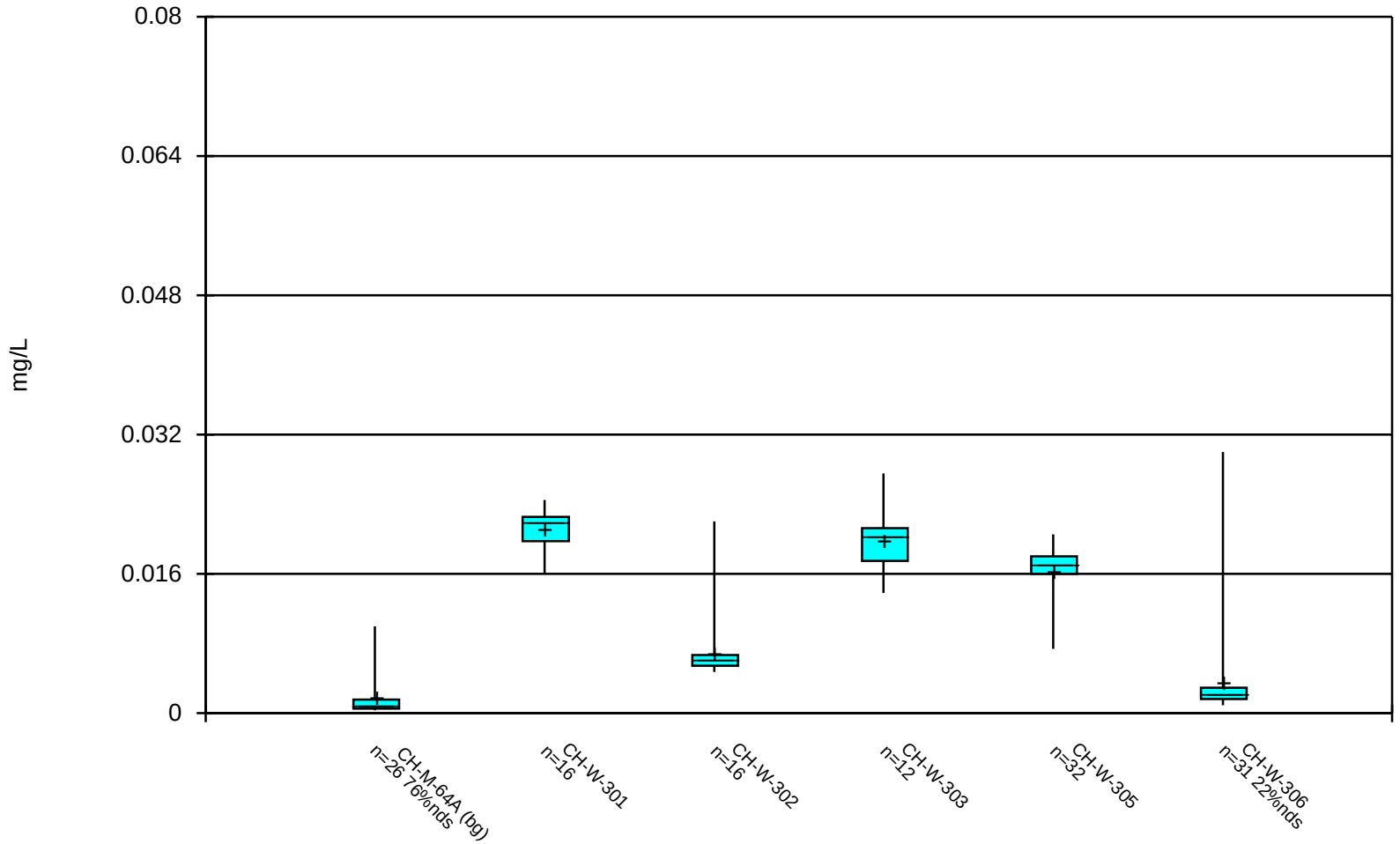
Box & Whiskers Plot



Constituent: Boron Analysis Run 2/23/2026 1:27 PM

Cholla Power Plant Client: WSP Data: APS Stats Table BAP Remedy Selection

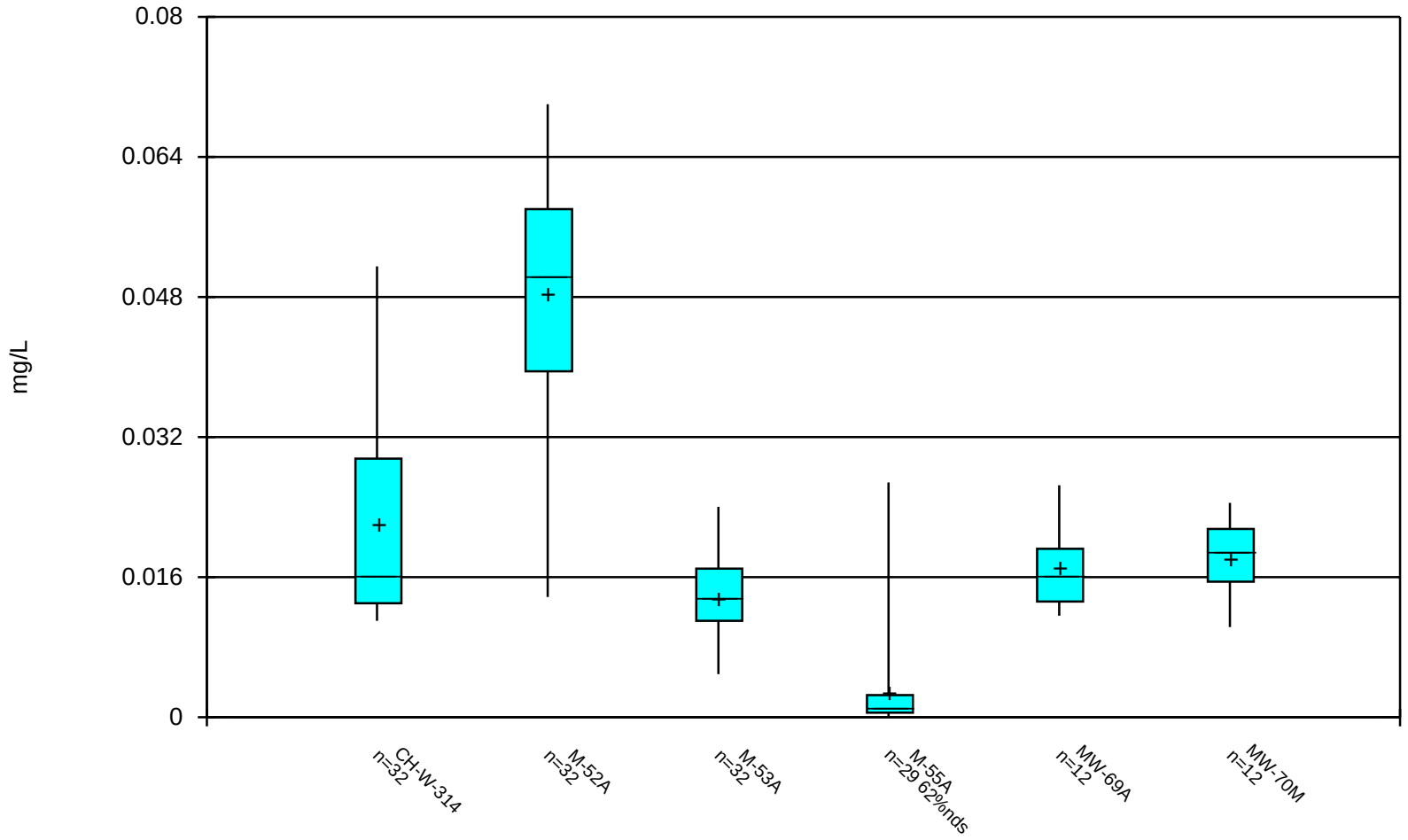
Box & Whiskers Plot



Constituent: Cobalt Analysis Run 2/23/2026 1:27 PM

Cholla Power Plant Client: WSP Data: APS Stats Table BAP Remedy Selection

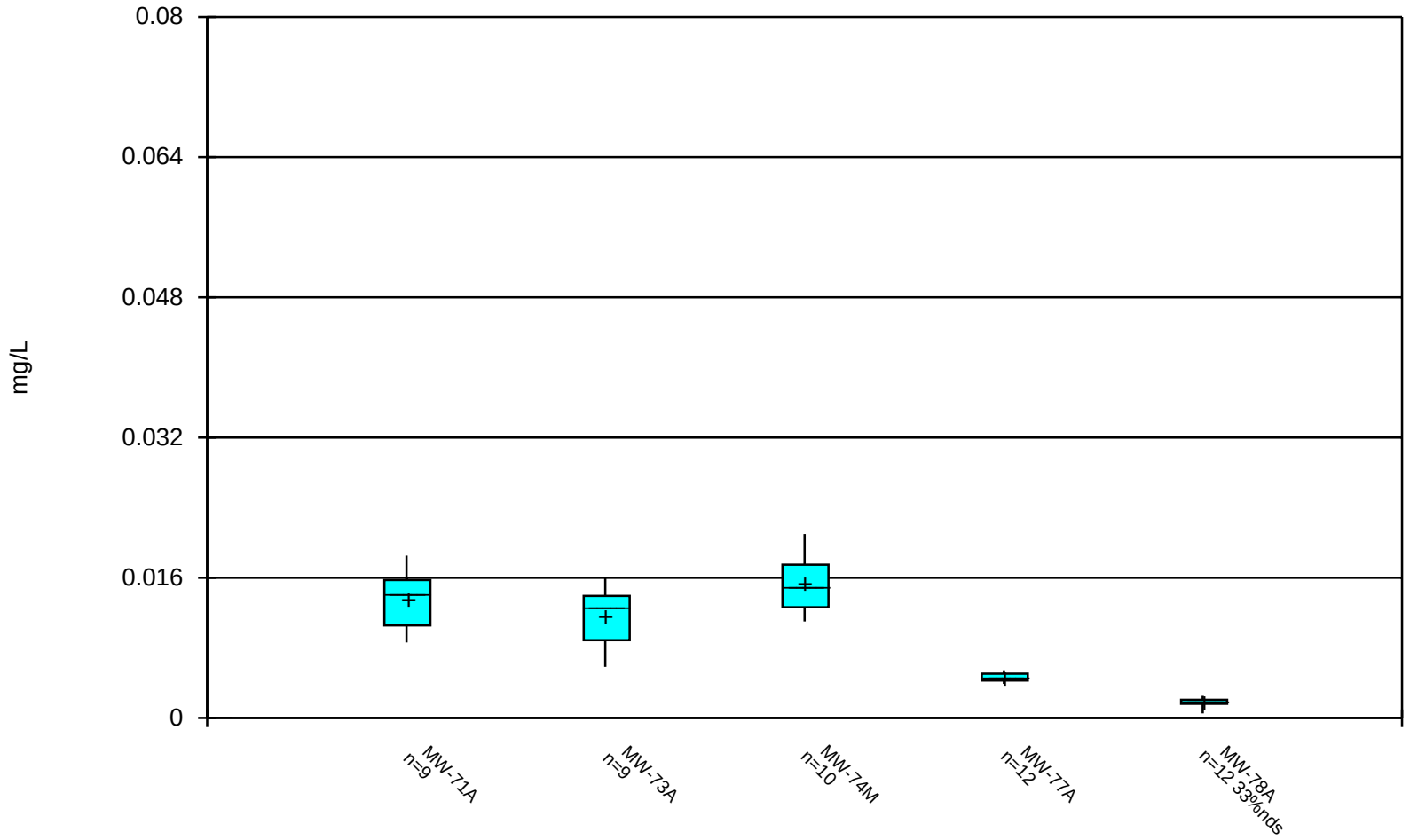
Box & Whiskers Plot



Constituent: Cobalt Analysis Run 2/23/2026 1:27 PM

Cholla Power Plant Client: WSP Data: APS Stats Table BAP Remedy Selection

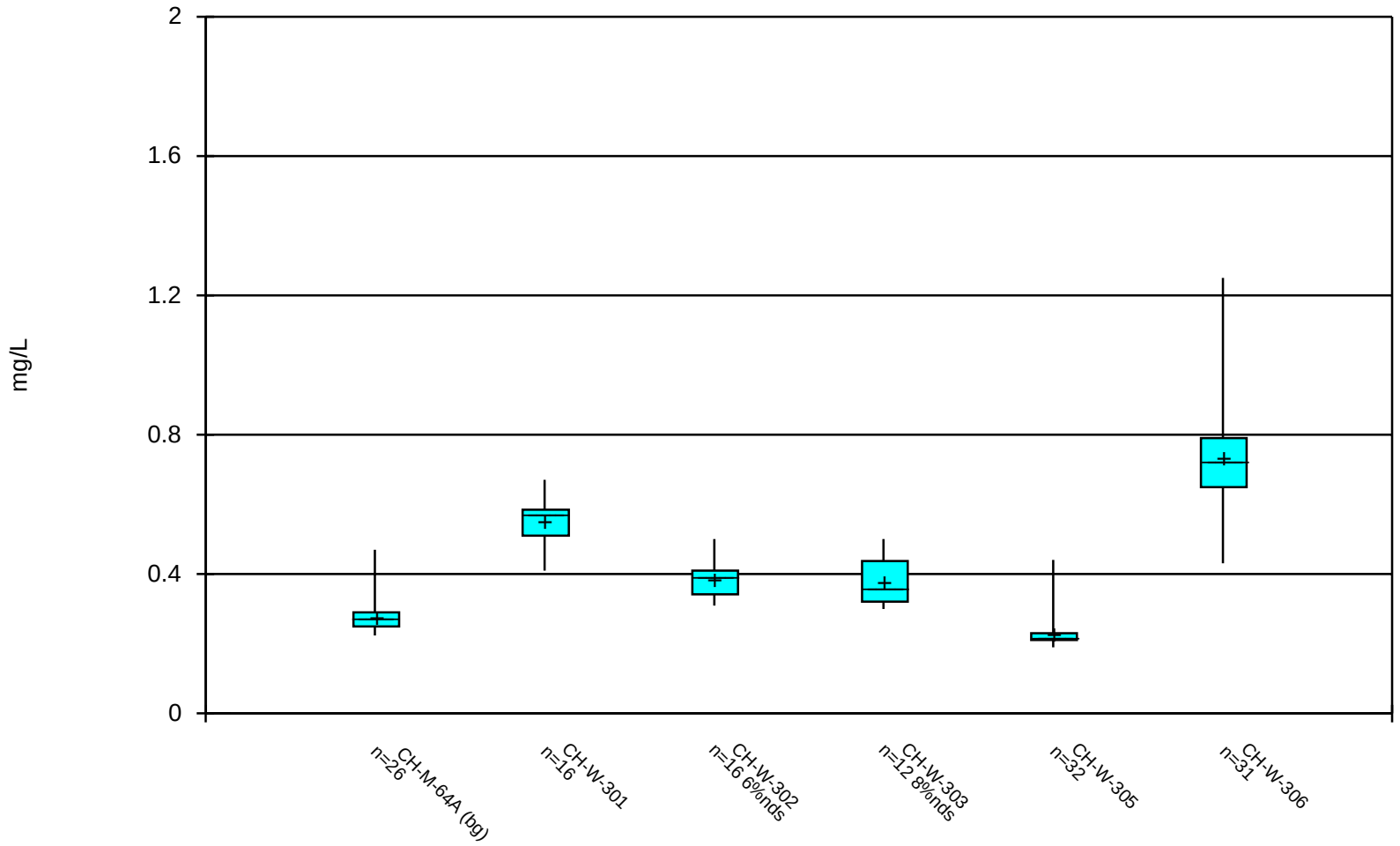
Box & Whiskers Plot



Constituent: Cobalt Analysis Run 2/23/2026 1:27 PM

Cholla Power Plant Client: WSP Data: APS Stats Table BAP Remedy Selection

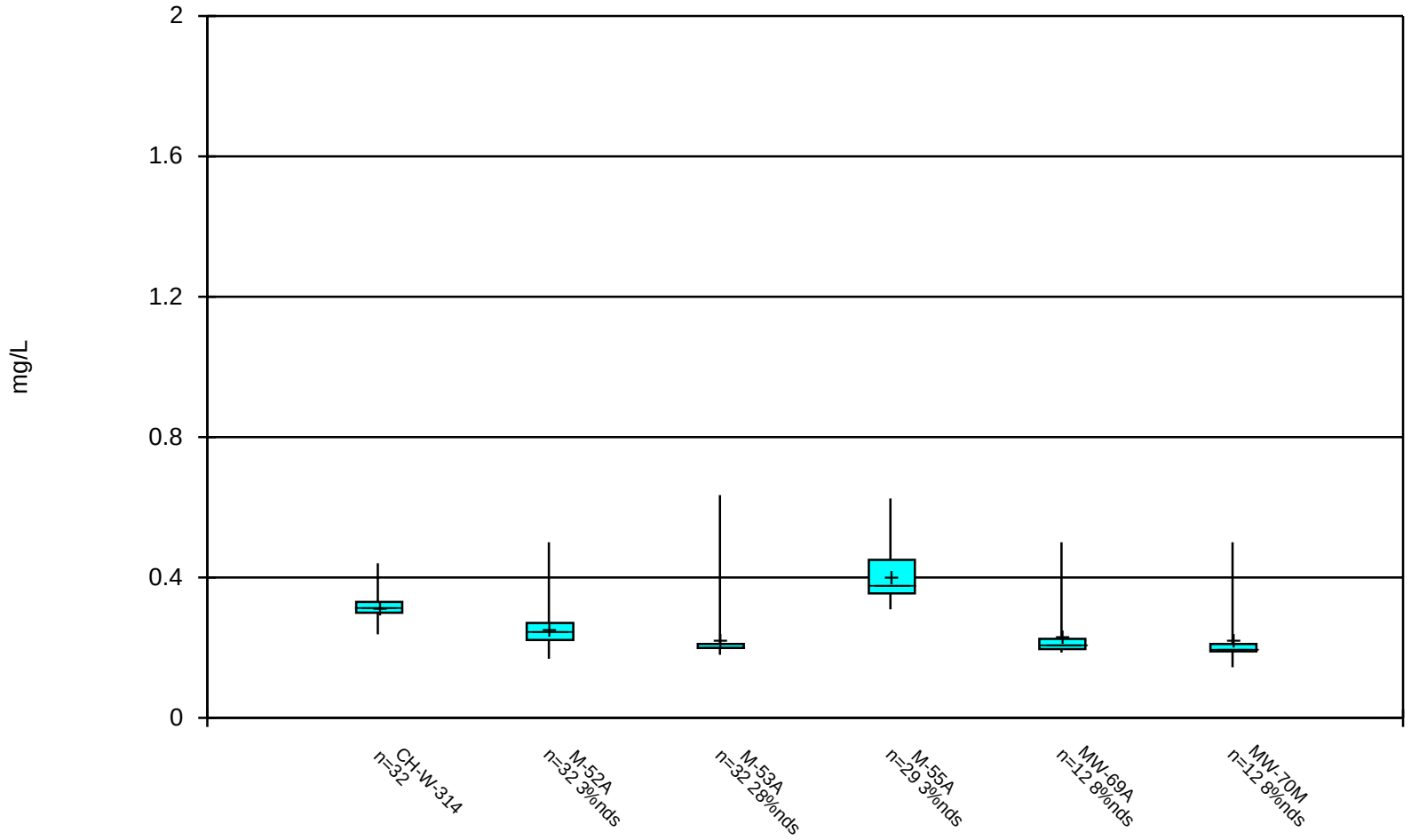
Box & Whiskers Plot



Constituent: Lithium Analysis Run 2/23/2026 1:27 PM

Cholla Power Plant Client: WSP Data: APS Stats Table BAP Remedy Selection

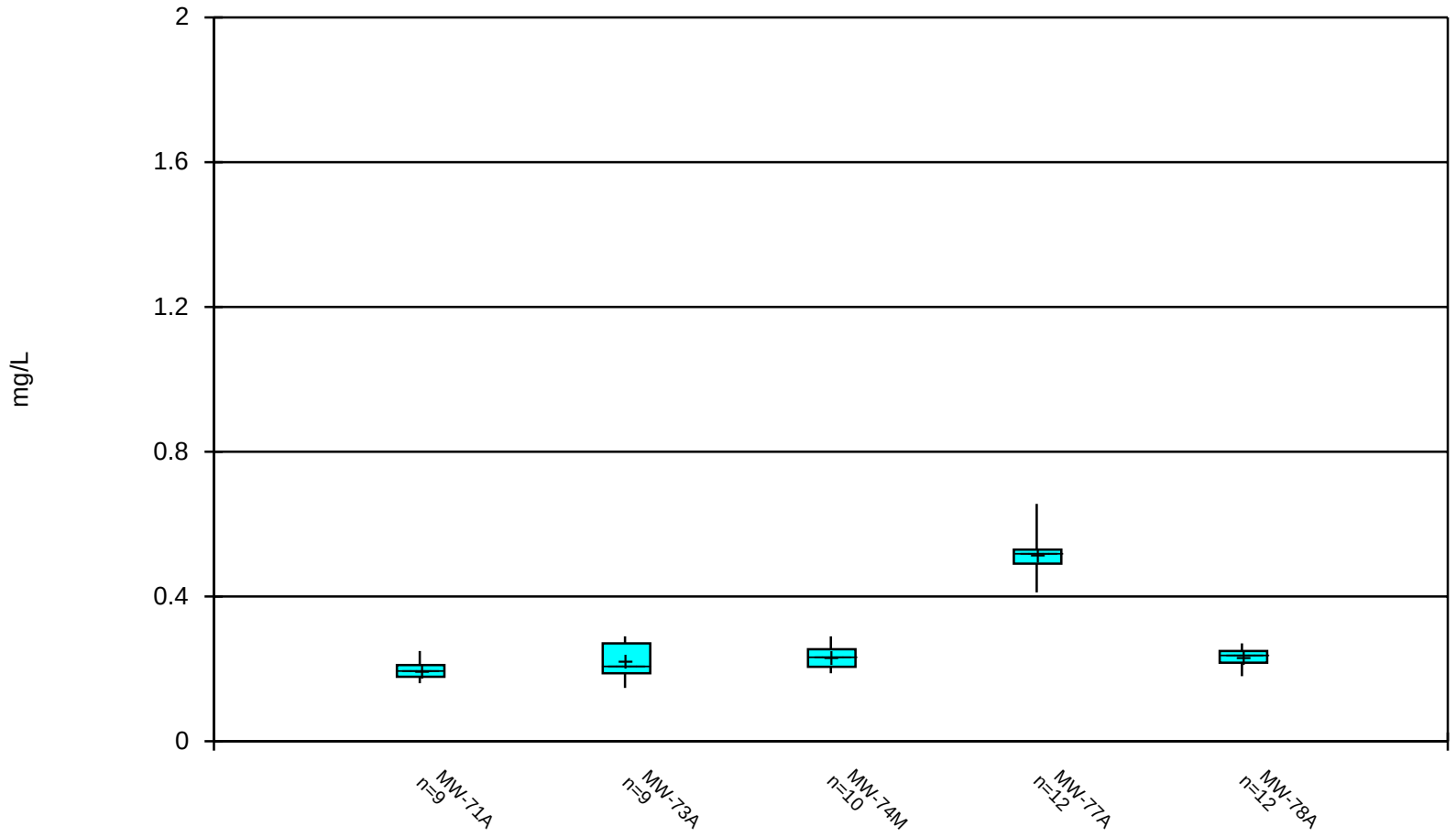
Box & Whiskers Plot



Constituent: Lithium Analysis Run 2/23/2026 1:27 PM

Cholla Power Plant Client: WSP Data: APS Stats Table BAP Remedy Selection

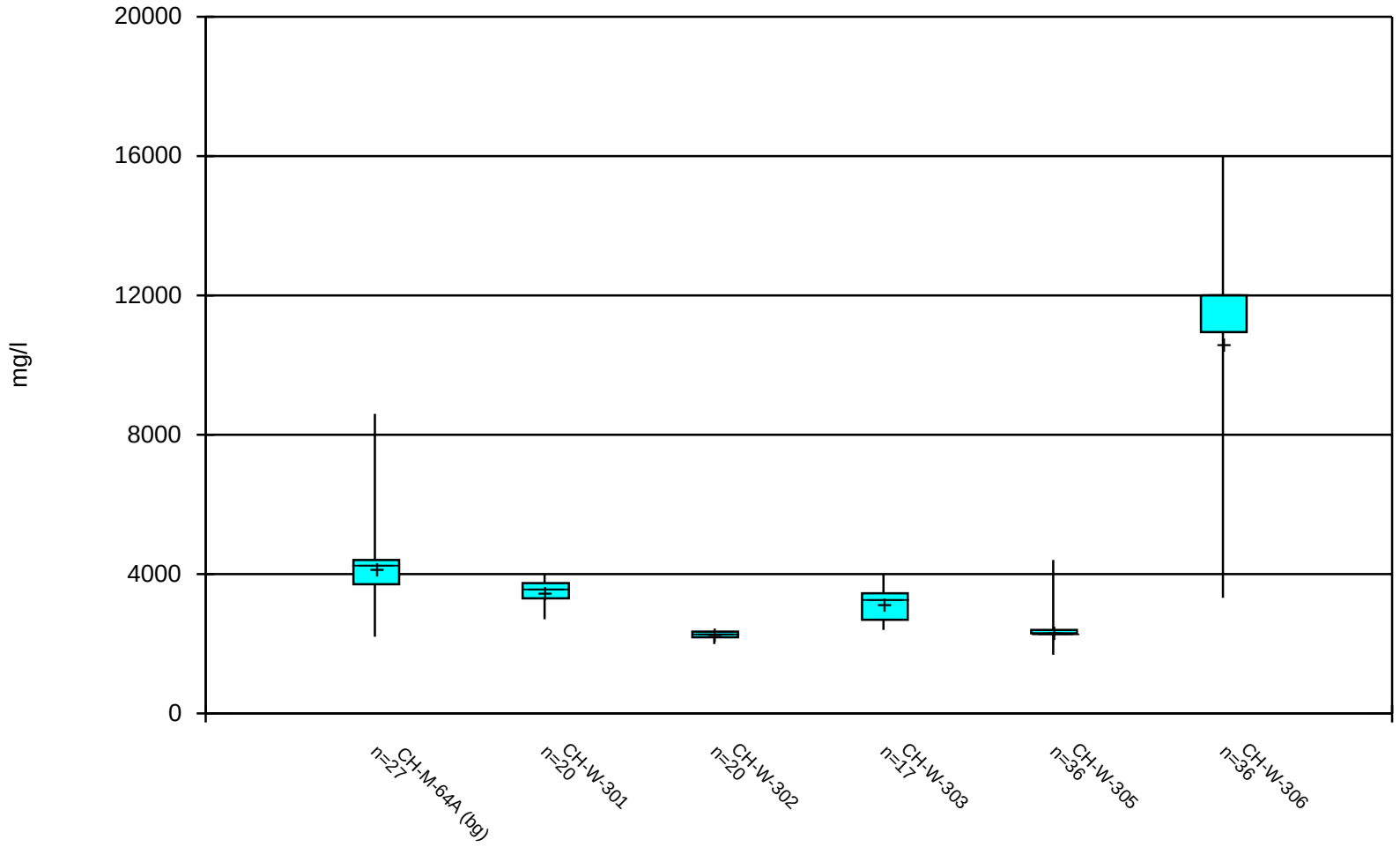
Box & Whiskers Plot



Constituent: Lithium Analysis Run 2/23/2026 1:27 PM

Cholla Power Plant Client: WSP Data: APS Stats Table BAP Remedy Selection

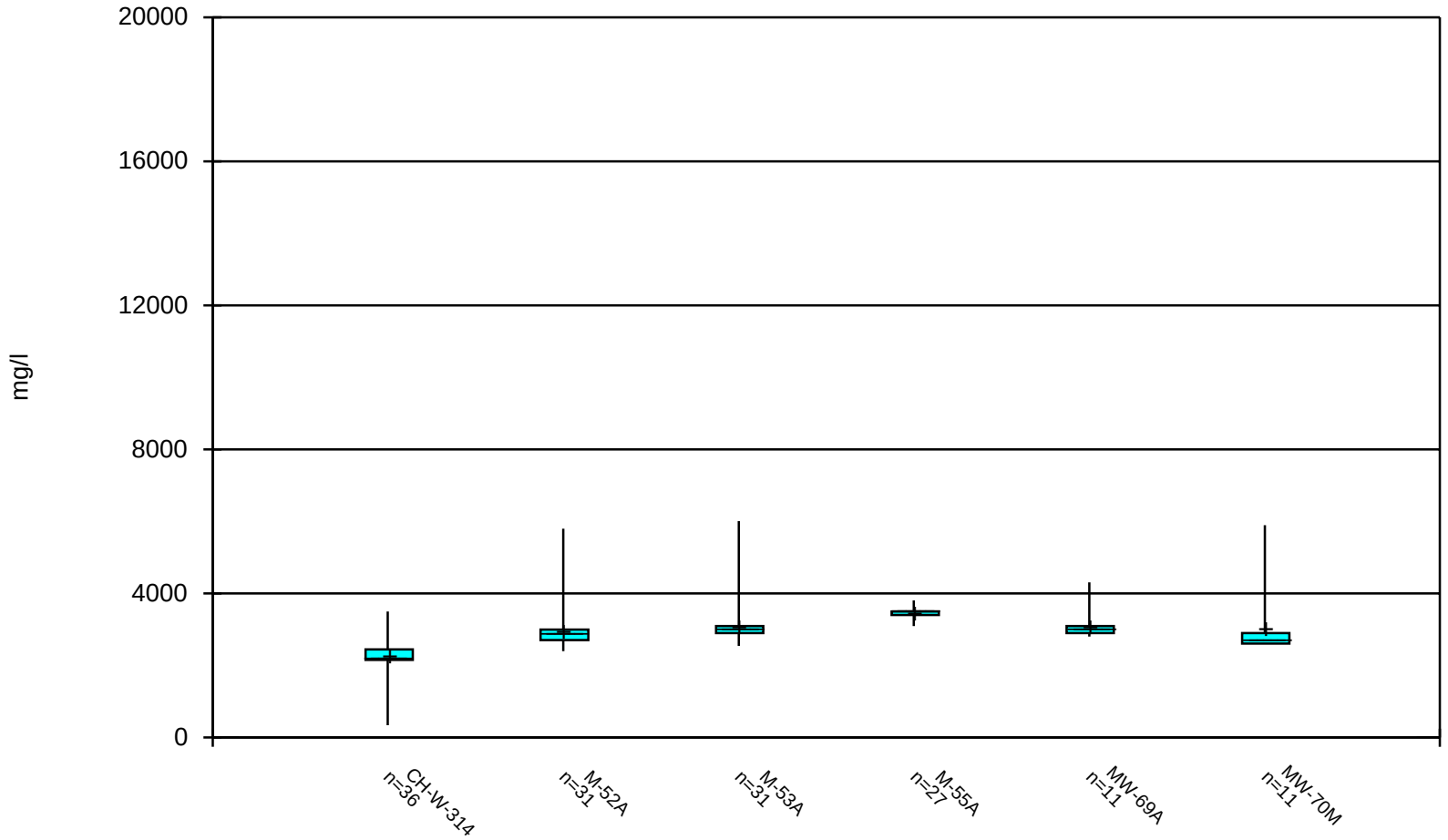
Box & Whiskers Plot



Constituent: Sulfate Analysis Run 2/23/2026 1:27 PM

Cholla Power Plant Client: WSP Data: APS Stats Table BAP Remedy Selection

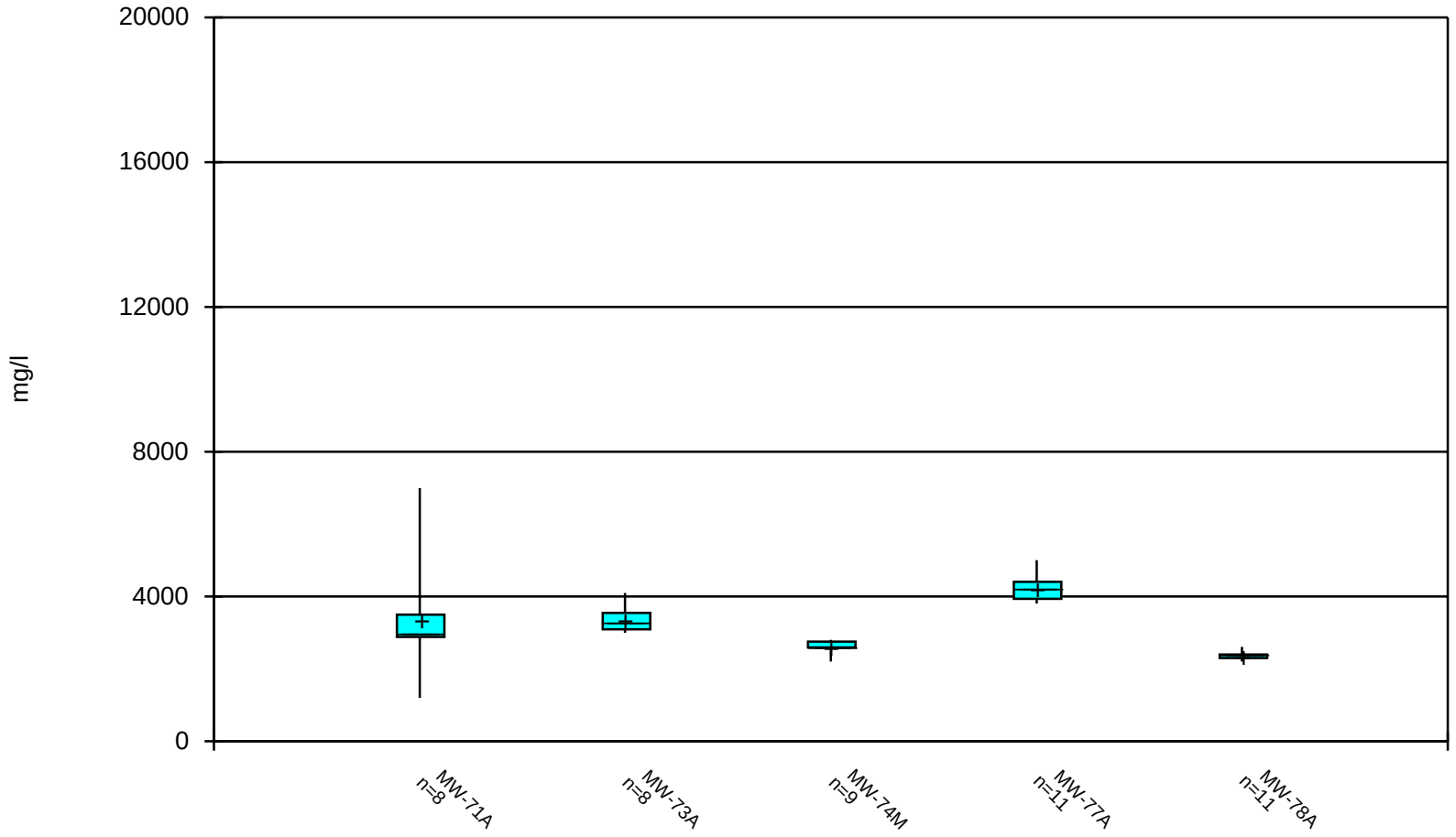
Box & Whiskers Plot



Constituent: Sulfate Analysis Run 2/23/2026 1:27 PM

Cholla Power Plant Client: WSP Data: APS Stats Table BAP Remedy Selection

Box & Whiskers Plot

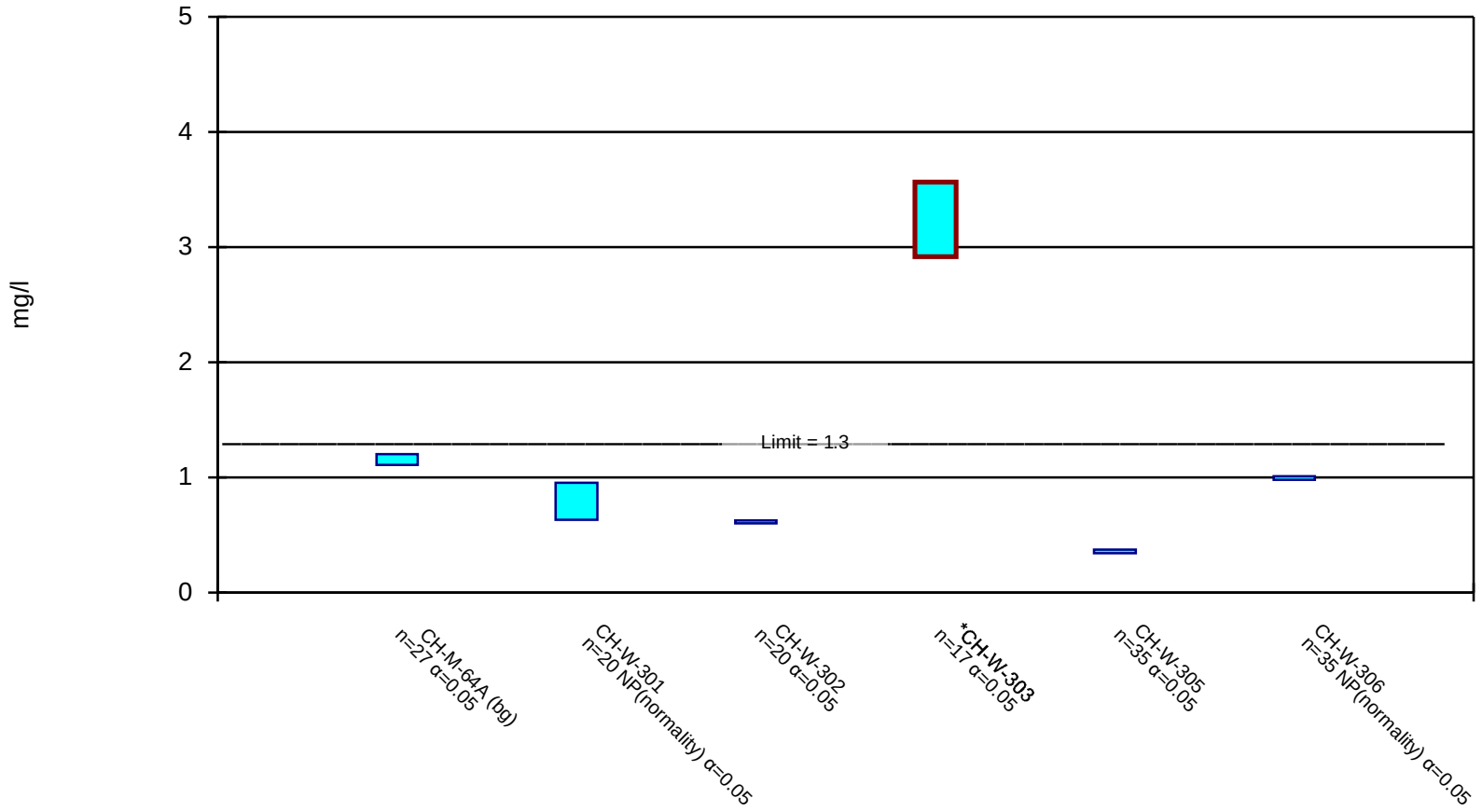


Constituent: Sulfate Analysis Run 2/23/2026 1:27 PM

Cholla Power Plant Client: WSP Data: APS Stats Table BAP Remedy Selection

Parametric and Non-Parametric (NP) Confidence Interval

Compliance limit is exceeded.* Normality Test: Shapiro Wilk, alpha based on n.

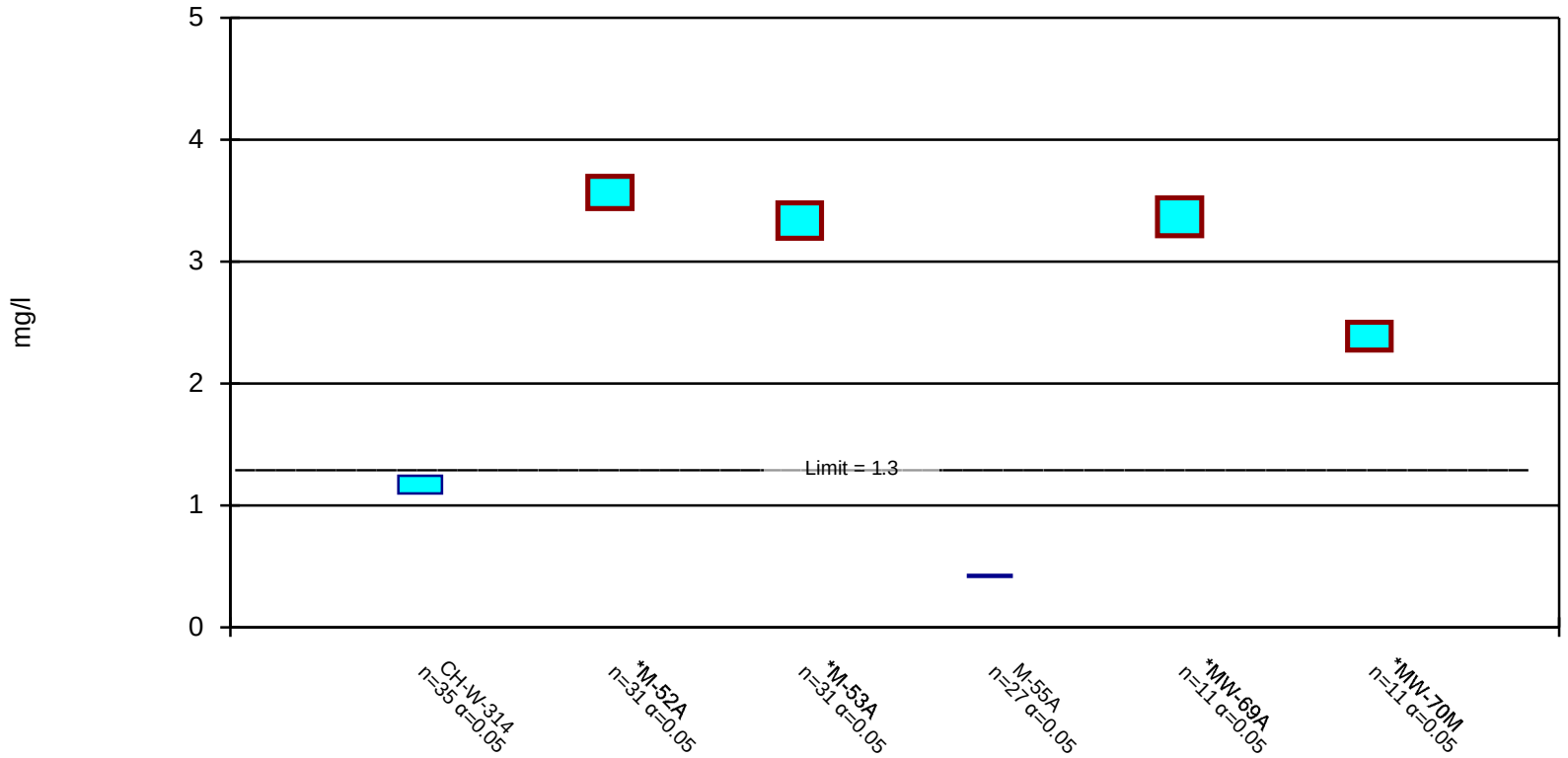


Constituent: Boron Analysis Run 2/23/2026 1:32 PM

Cholla Power Plant Client: WSP Data: APS Stats Table BAP Remedy Selection

Parametric Confidence Interval

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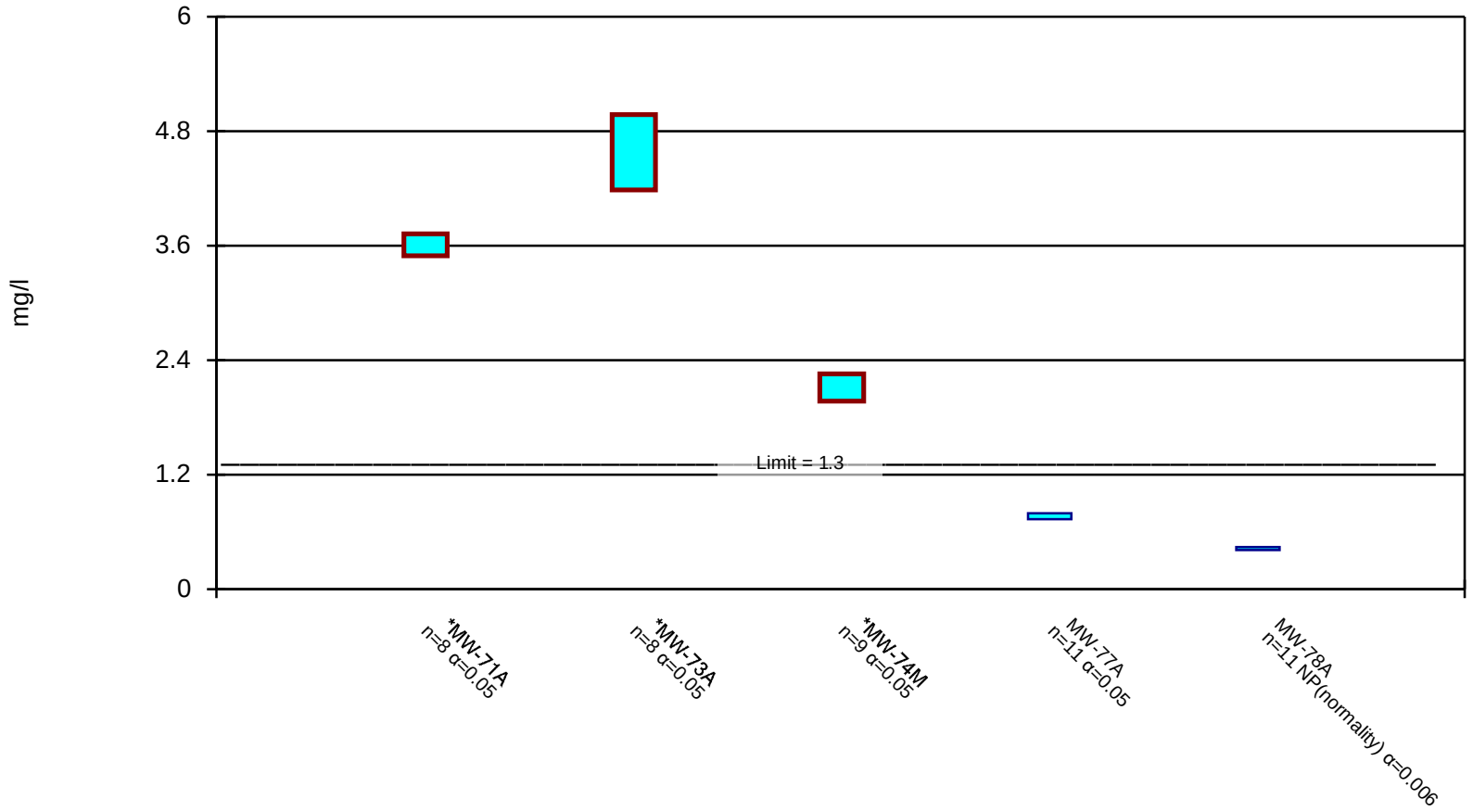


Constituent: Boron Analysis Run 2/23/2026 1:32 PM

Cholla Power Plant Client: WSP Data: APS Stats Table BAP Remedy Selection

Parametric and Non-Parametric (NP) Confidence Interval

Compliance limit is exceeded.* Normality Test: Shapiro Wilk, alpha based on n.

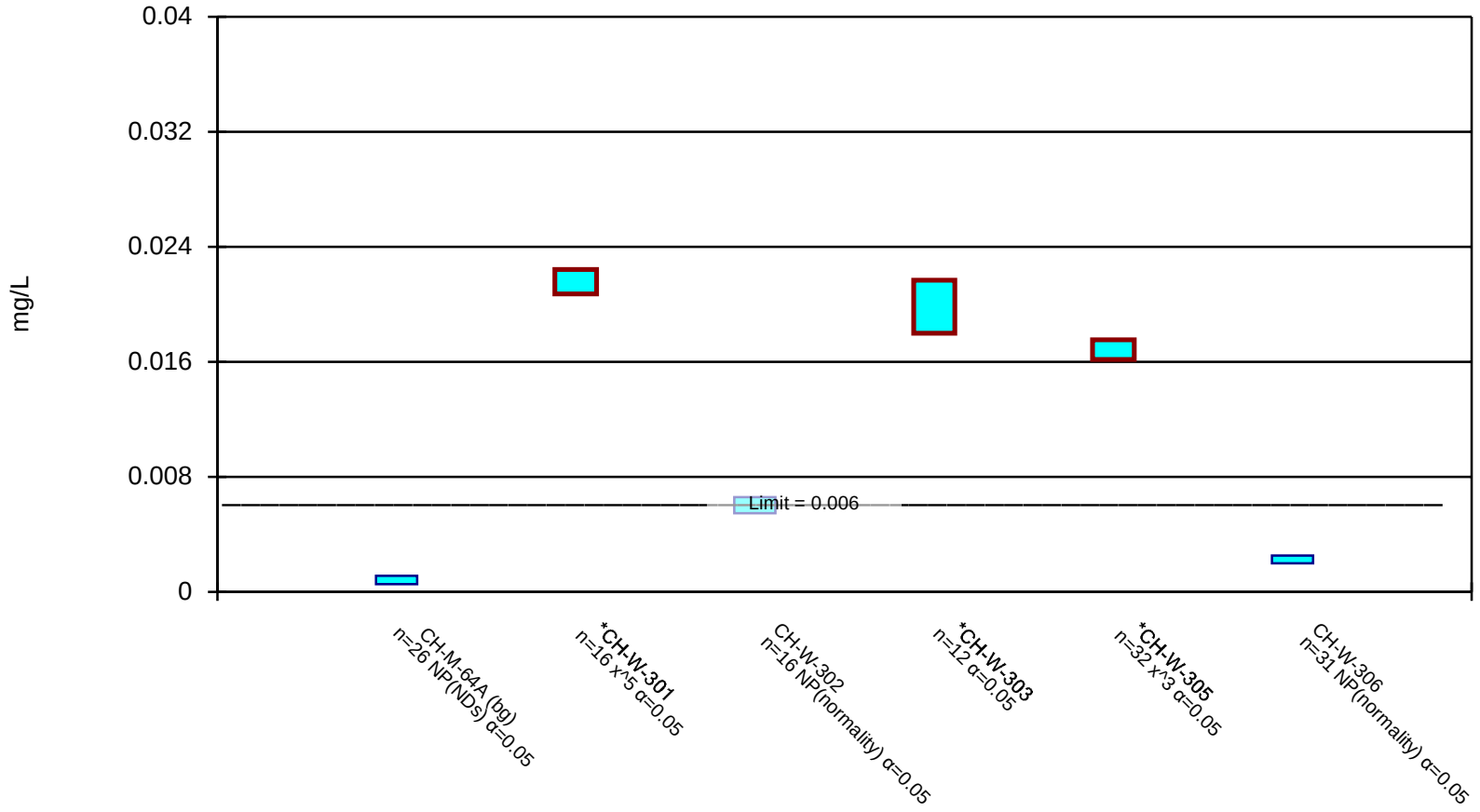


Constituent: Boron Analysis Run 2/23/2026 1:32 PM

Cholla Power Plant Client: WSP Data: APS Stats Table BAP Remedy Selection

Parametric and Non-Parametric (NP) Confidence Interval

Compliance limit is exceeded.* Normality Test: Shapiro Wilk, alpha based on n.

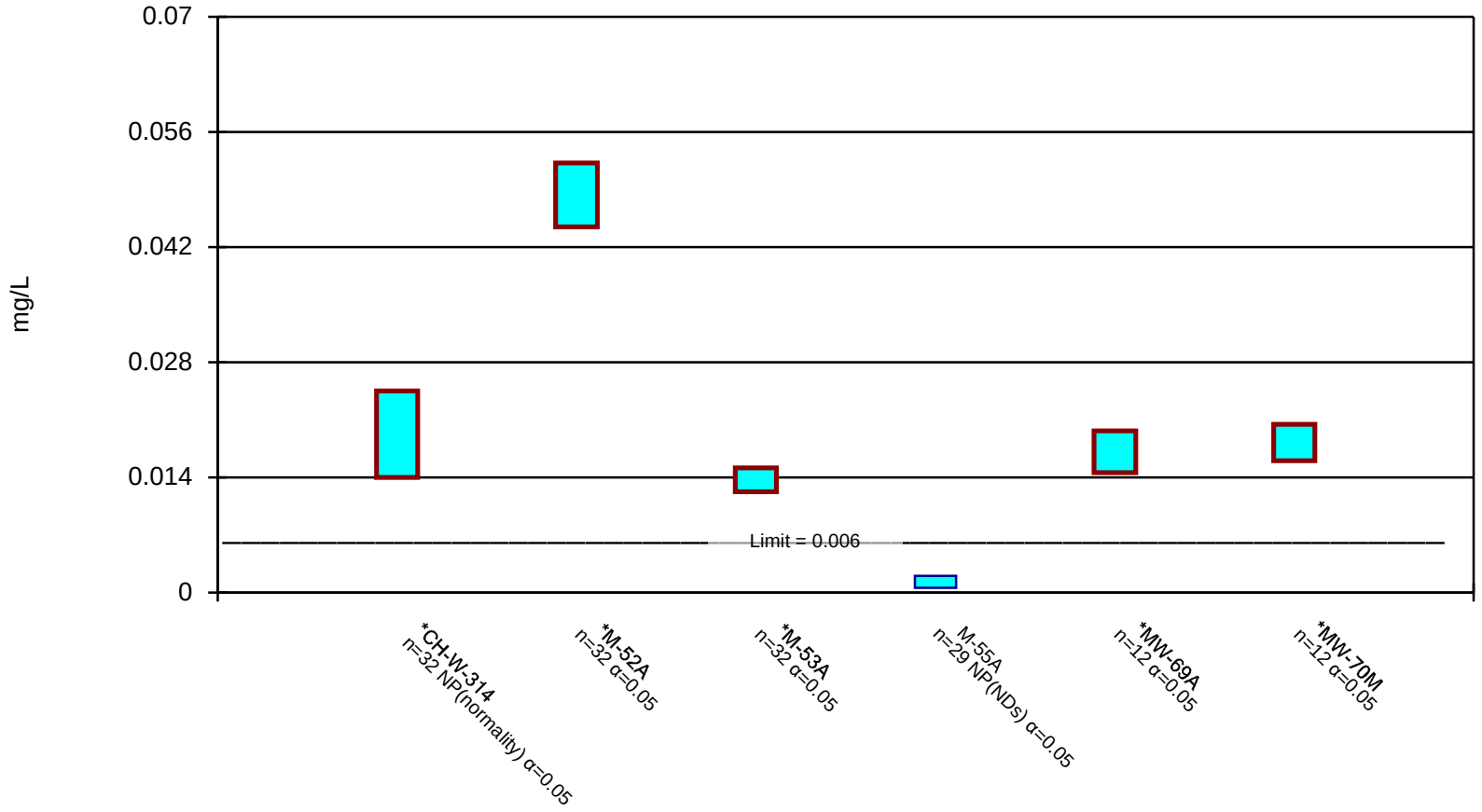


Constituent: Cobalt Analysis Run 2/23/2026 1:32 PM

Cholla Power Plant Client: WSP Data: APS Stats Table BAP Remedy Selection

Parametric and Non-Parametric (NP) Confidence Interval

Compliance limit is exceeded.* Normality Test: Shapiro Wilk, alpha based on n.

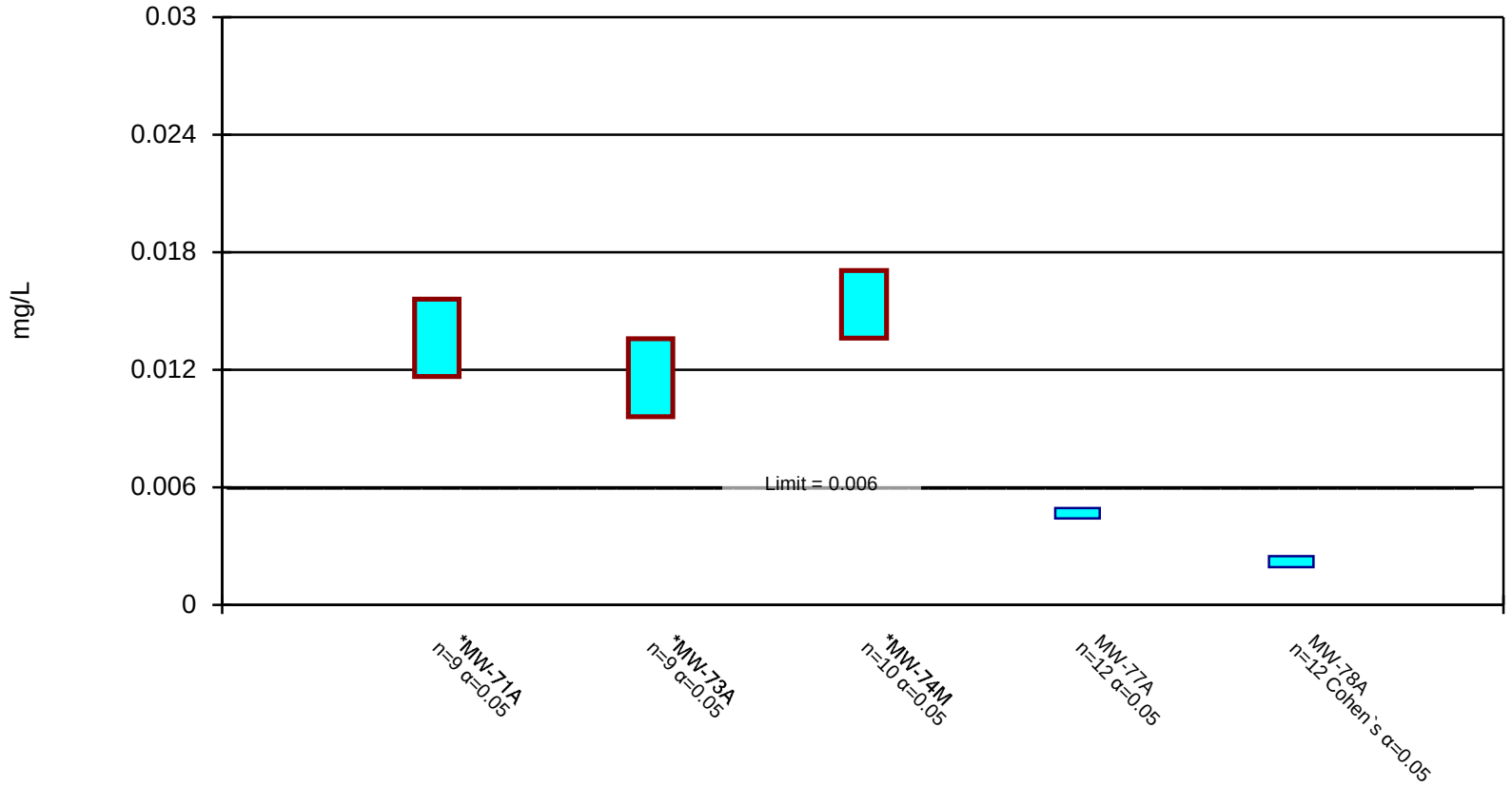


Constituent: Cobalt Analysis Run 2/23/2026 1:32 PM

Cholla Power Plant Client: WSP Data: APS Stats Table BAP Remedy Selection

Parametric Confidence Interval

Compliance limit is exceeded.* Normality Test: Shapiro Wilk, alpha based on n.

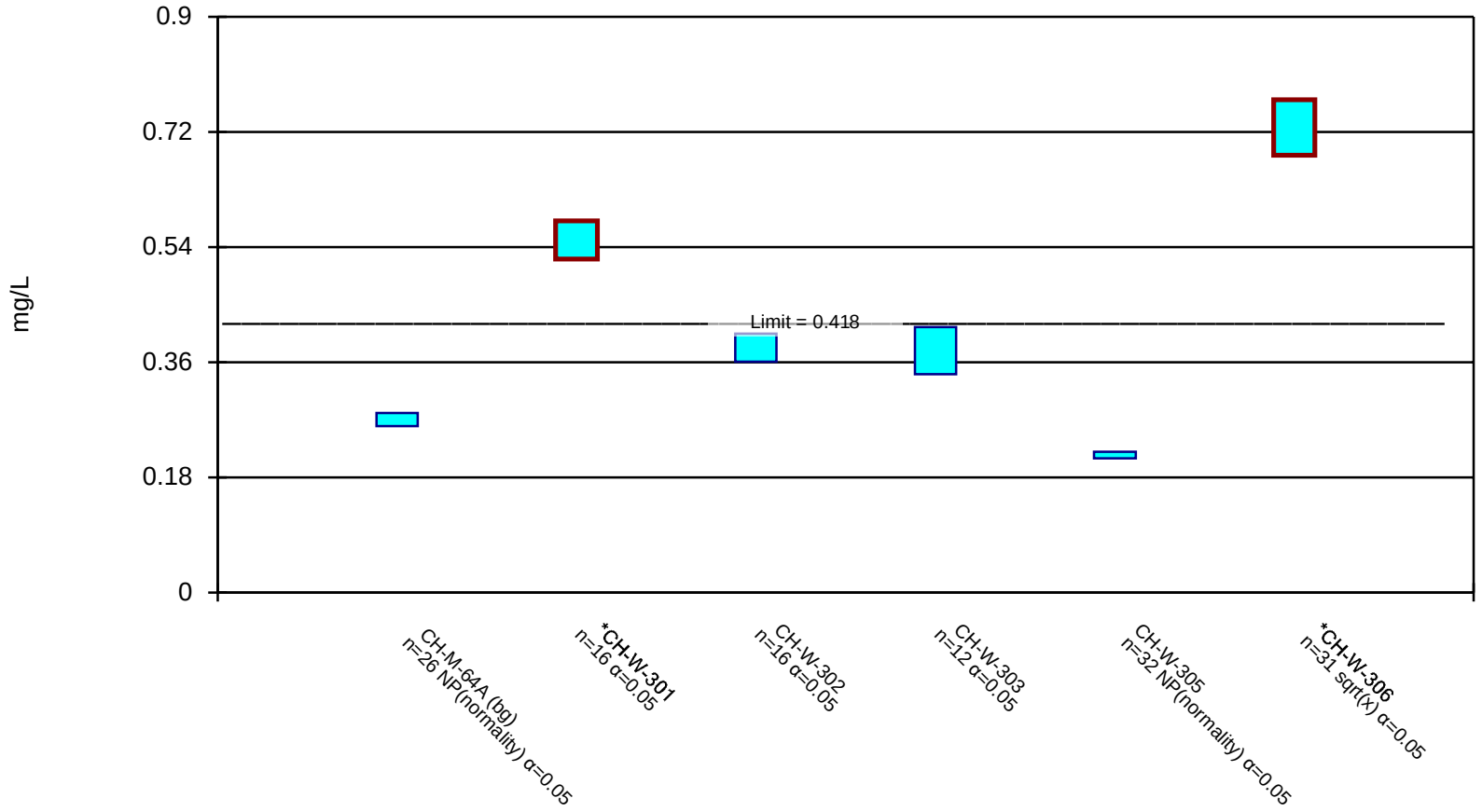


Constituent: Cobalt Analysis Run 2/23/2026 1:32 PM

Cholla Power Plant Client: WSP Data: APS Stats Table BAP Remedy Selection

Parametric and Non-Parametric (NP) Confidence Interval

Compliance limit is exceeded.* Normality Test: Shapiro Wilk, alpha based on n.

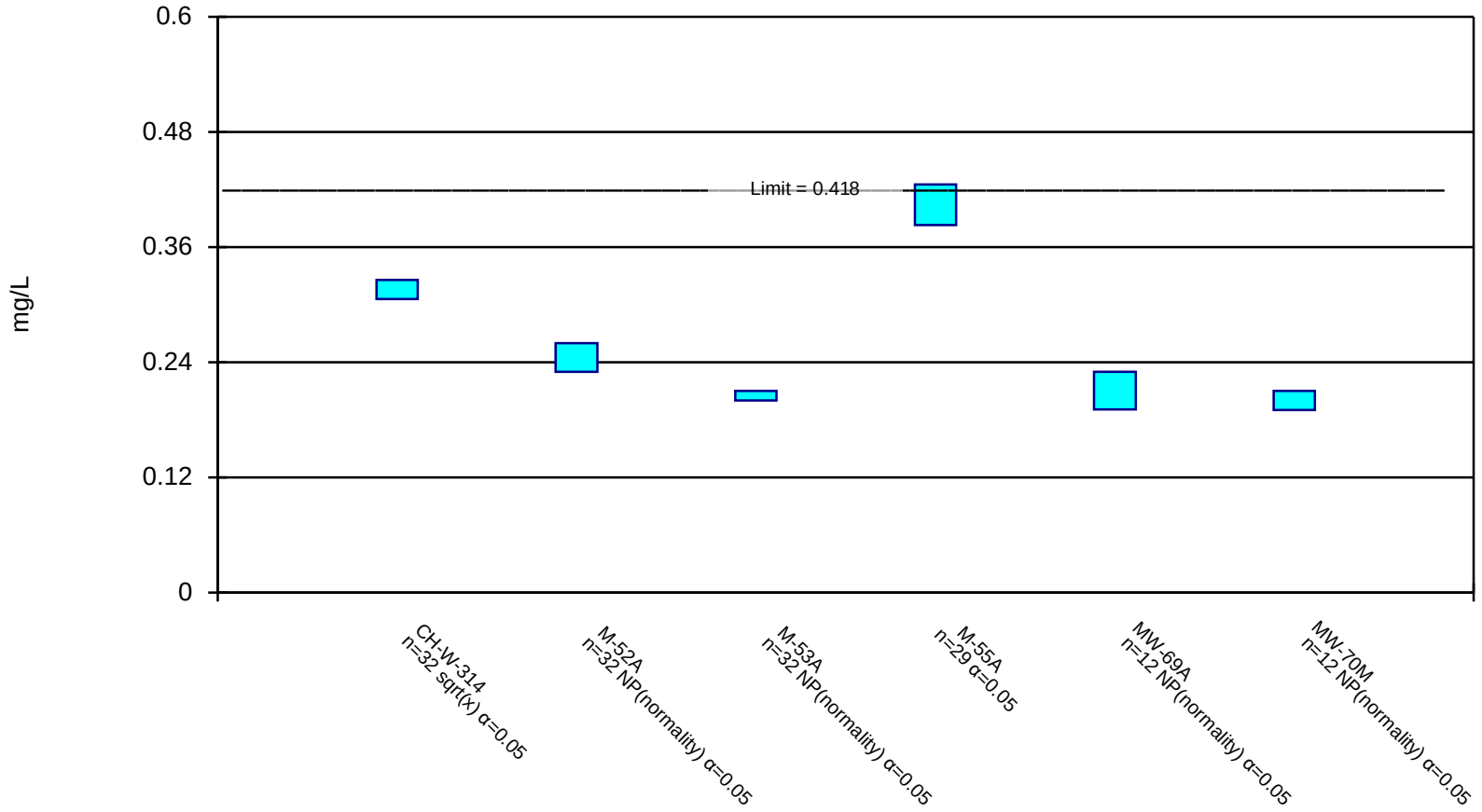


Constituent: Lithium Analysis Run 2/23/2026 1:32 PM

Cholla Power Plant Client: WSP Data: APS Stats Table BAP Remedy Selection

Parametric and Non-Parametric (NP) Confidence Interval

Compliance Limit is not exceeded. Normality Test: Shapiro Wilk, alpha based on n.

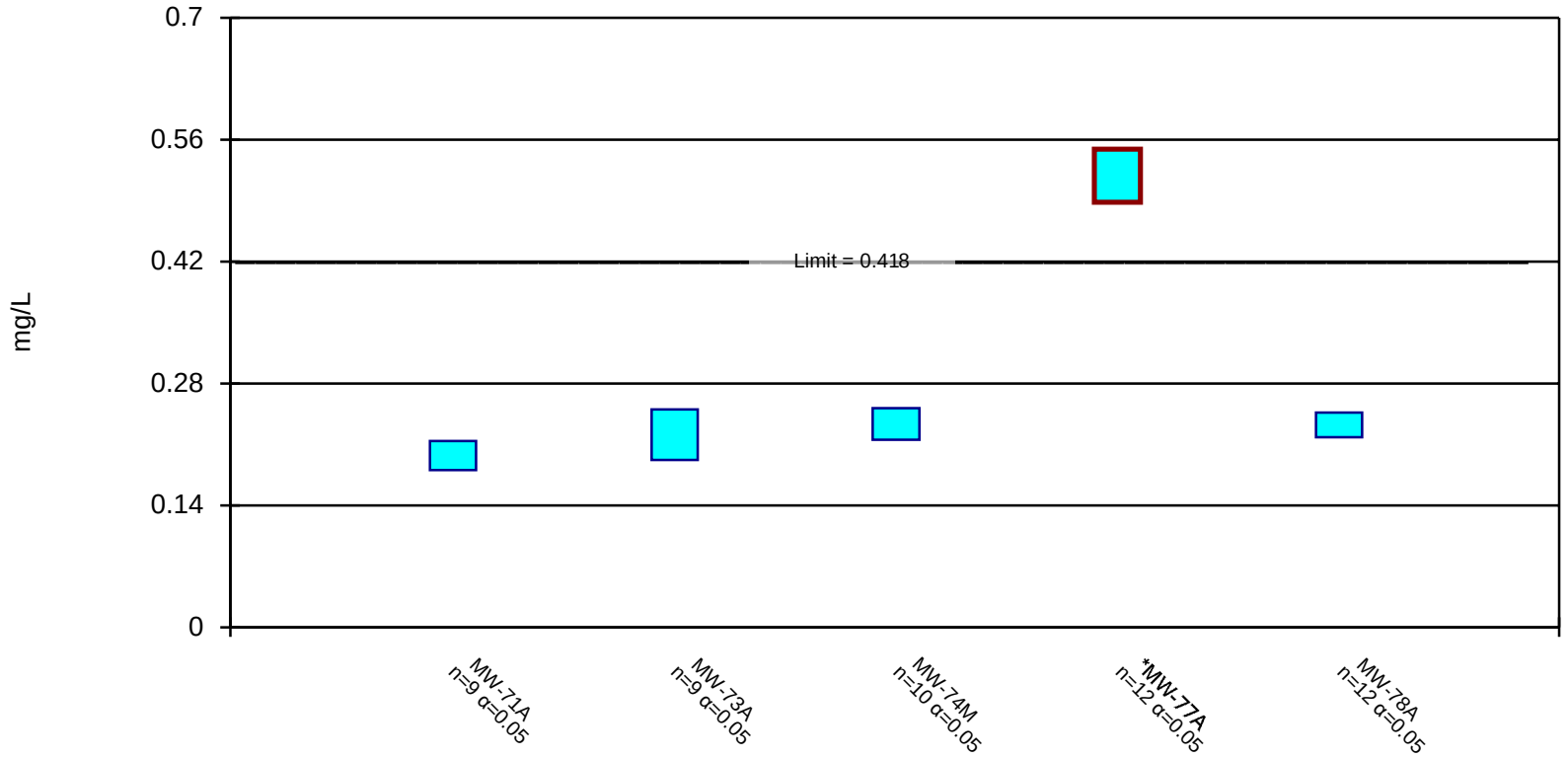


Constituent: Lithium Analysis Run 2/23/2026 1:32 PM

Cholla Power Plant Client: WSP Data: APS Stats Table BAP Remedy Selection

Parametric Confidence Interval

Compliance limit is exceeded.* Normality Test: Shapiro Wilk, alpha based on n.

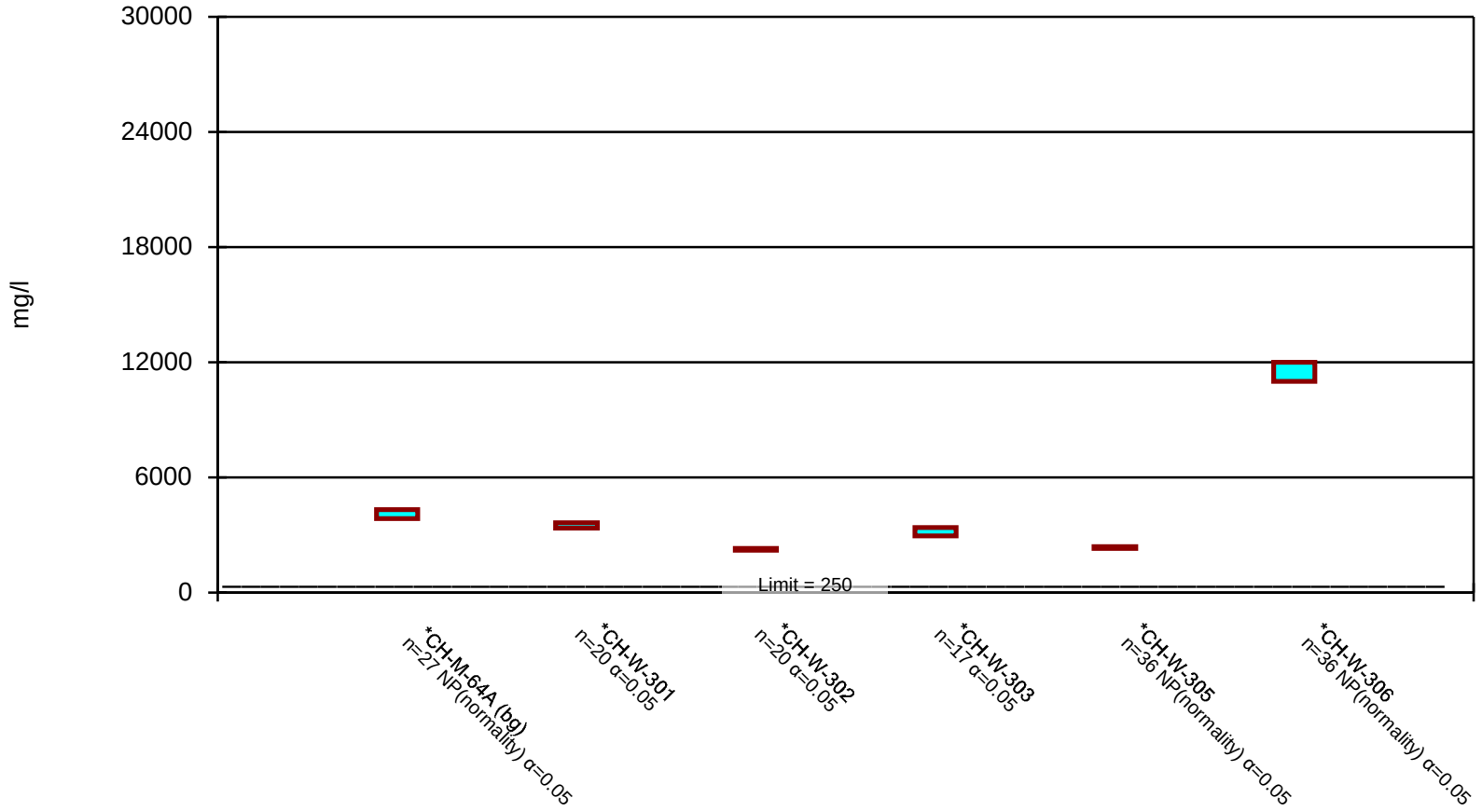


Constituent: Lithium Analysis Run 2/23/2026 1:32 PM

Cholla Power Plant Client: WSP Data: APS Stats Table BAP Remedy Selection

Parametric and Non-Parametric (NP) Confidence Interval

Compliance limit is exceeded.* Normality Test: Shapiro Wilk, alpha based on n.

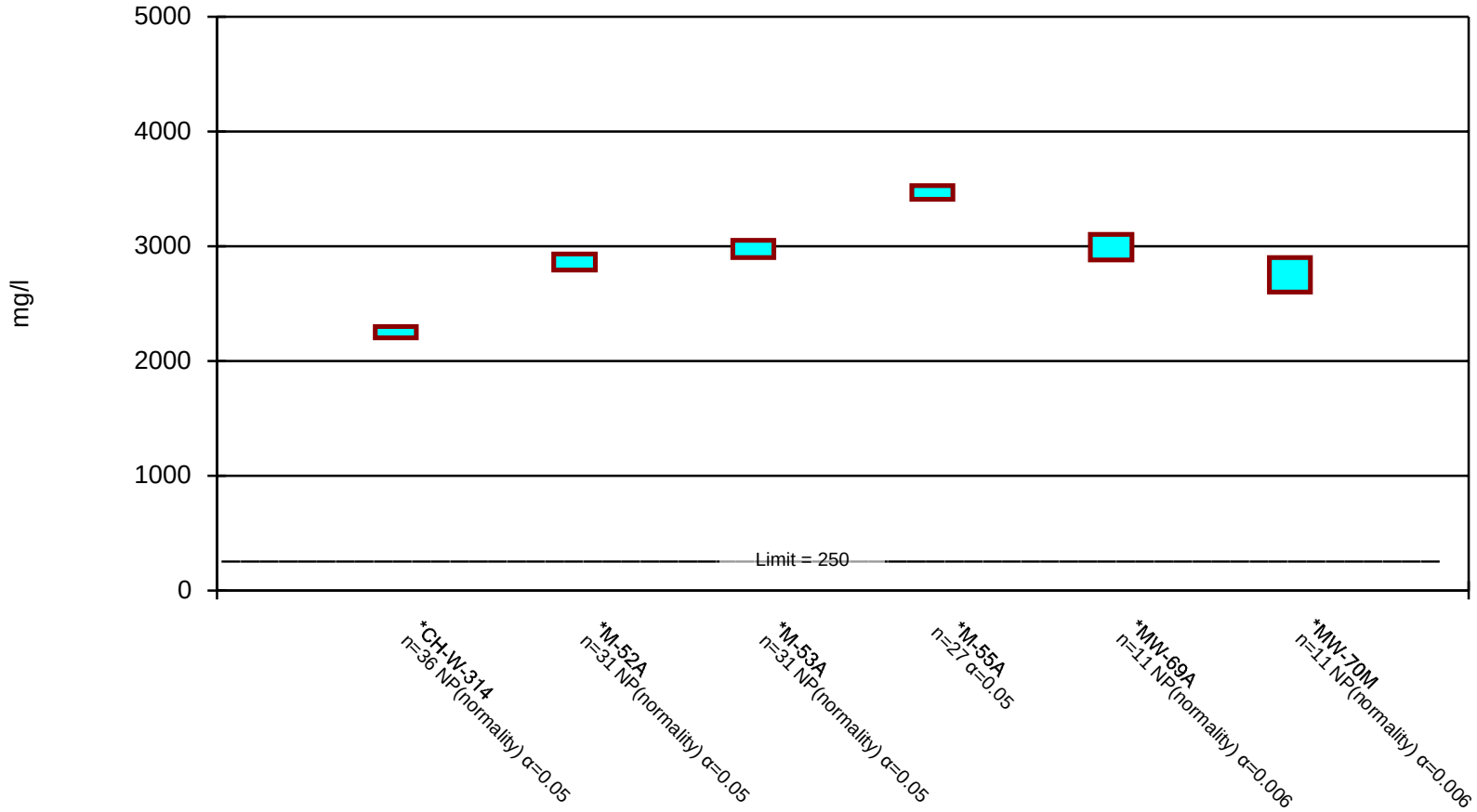


Constituent: Sulfate Analysis Run 2/23/2026 1:32 PM

Cholla Power Plant Client: WSP Data: APS Stats Table BAP Remedy Selection

Parametric and Non-Parametric (NP) Confidence Interval

Compliance limit is exceeded.* Normality Test: Shapiro Wilk, alpha based on n.

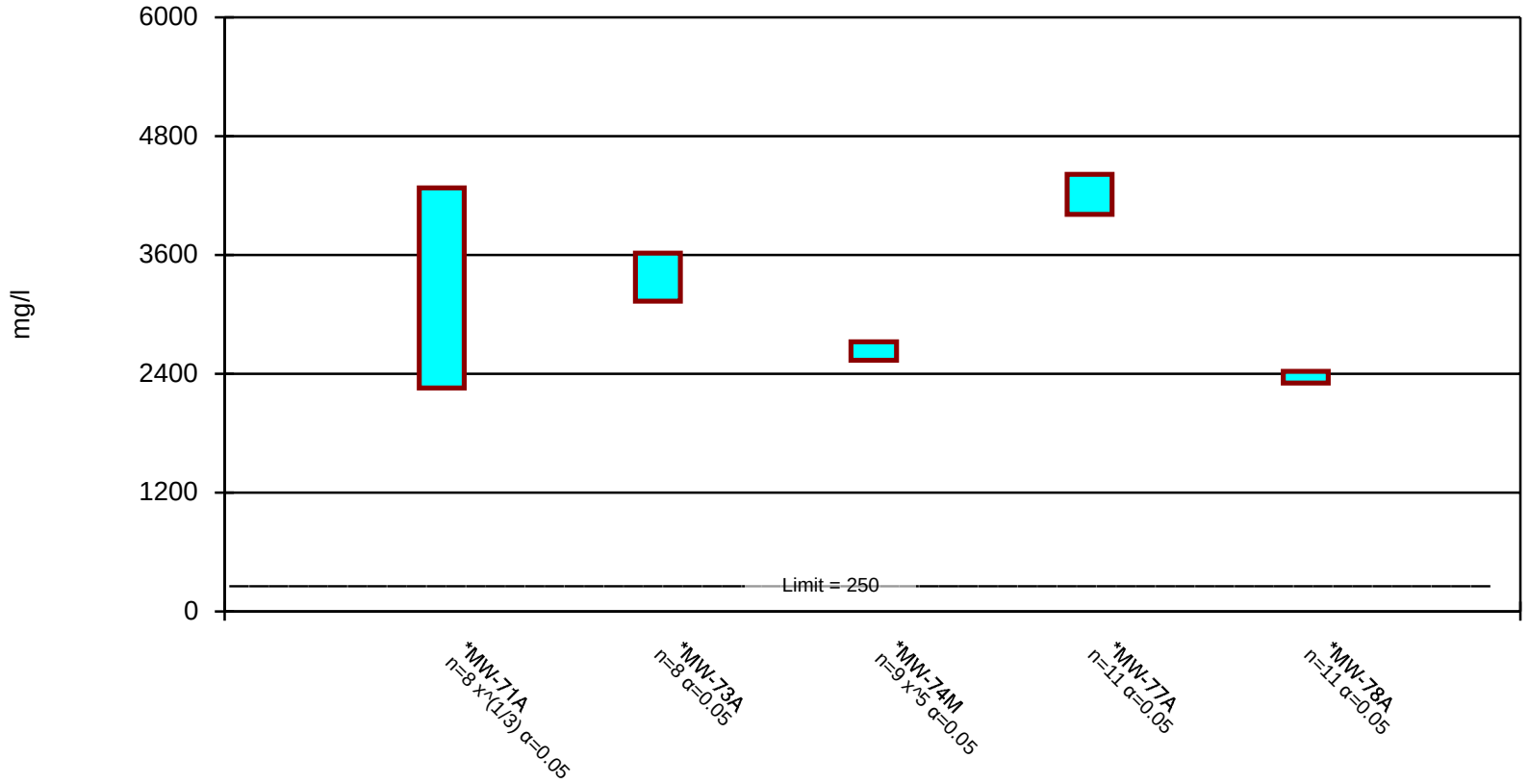


Constituent: Sulfate Analysis Run 2/23/2026 1:32 PM

Cholla Power Plant Client: WSP Data: APS Stats Table BAP Remedy Selection

Parametric Confidence Interval

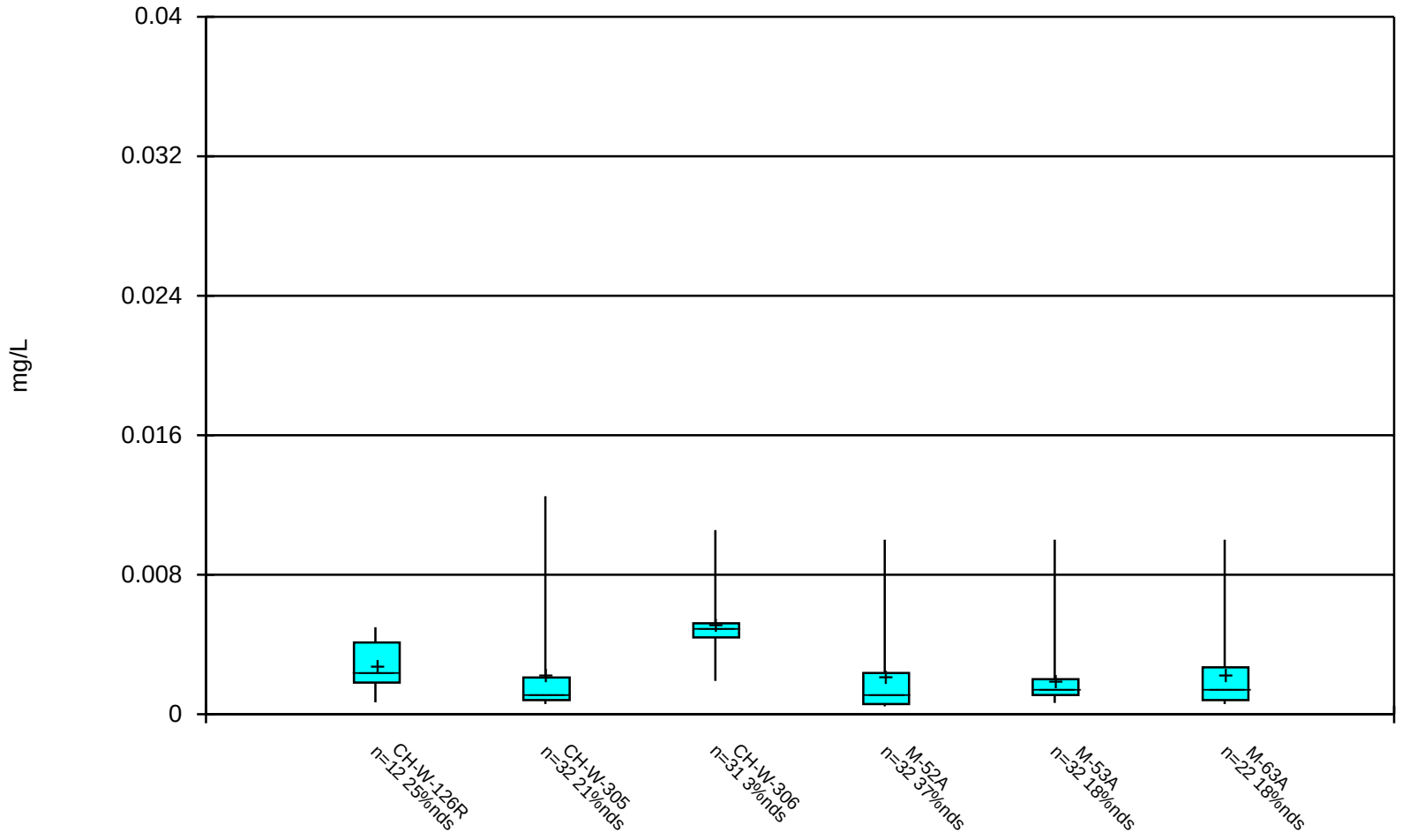
Compliance limit is exceeded.* Normality Test: Shapiro Wilk, alpha based on n.



Constituent: Sulfate Analysis Run 2/23/2026 1:32 PM

Cholla Power Plant Client: WSP Data: APS Stats Table BAP Remedy Selection

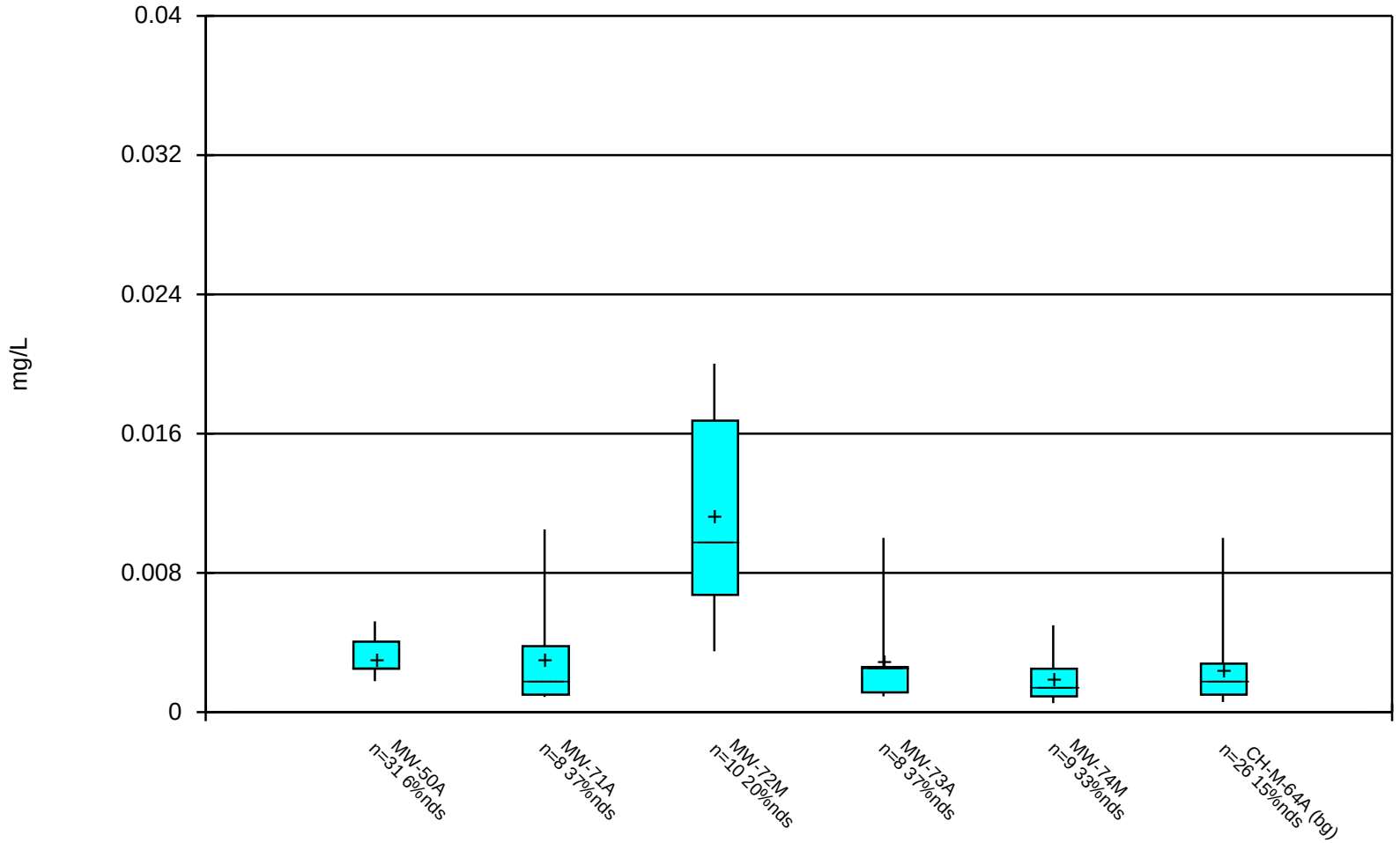
Box & Whiskers Plot



Constituent: Arsenic Analysis Run 2/23/2026 2:43 PM

Cholla Power Plant Client: WSP Data: APS Stats Table FAP Remedy Selection

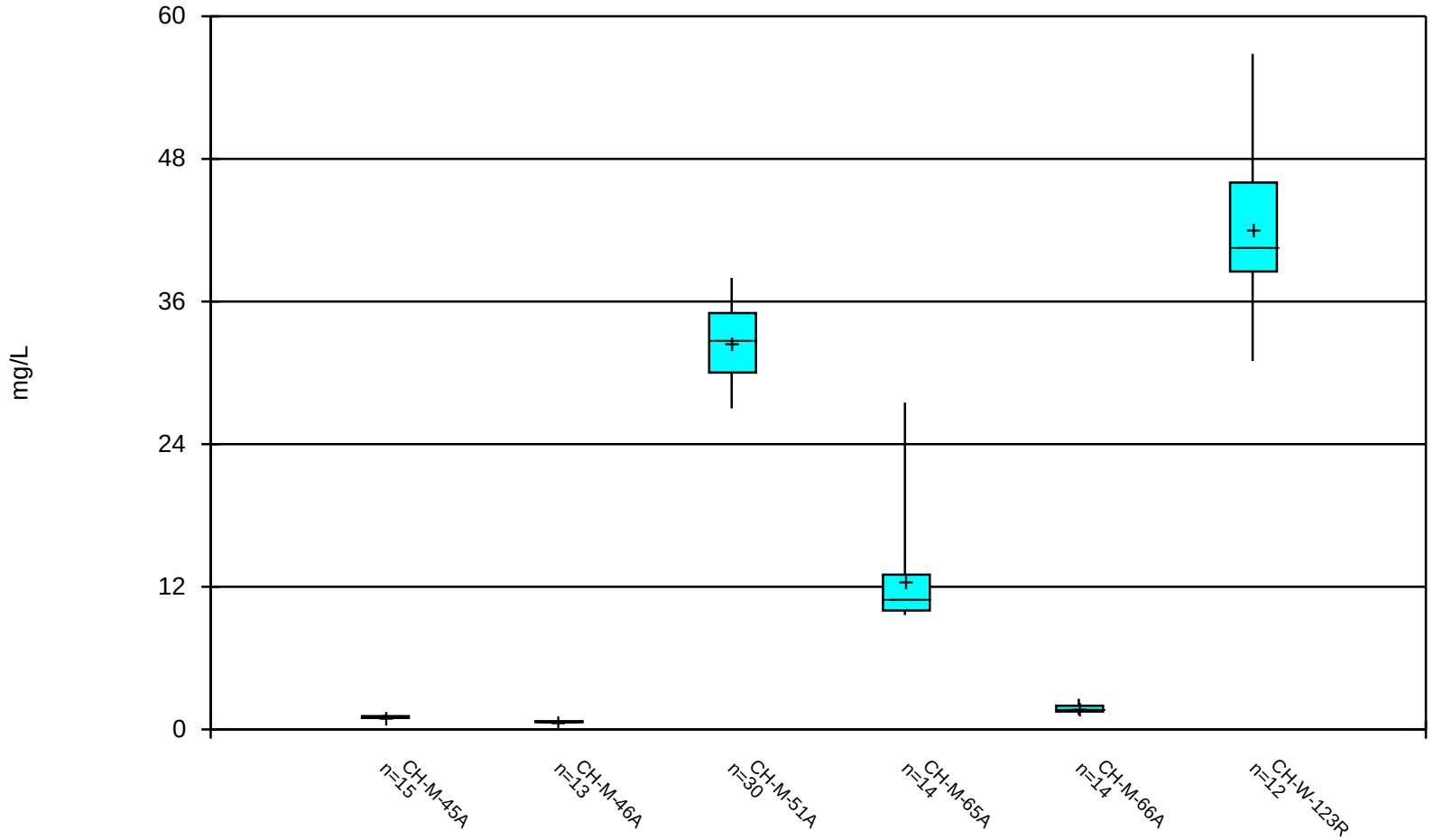
Box & Whiskers Plot



Constituent: Arsenic Analysis Run 2/23/2026 2:43 PM

Cholla Power Plant Client: WSP Data: APS Stats Table FAP Remedy Selection

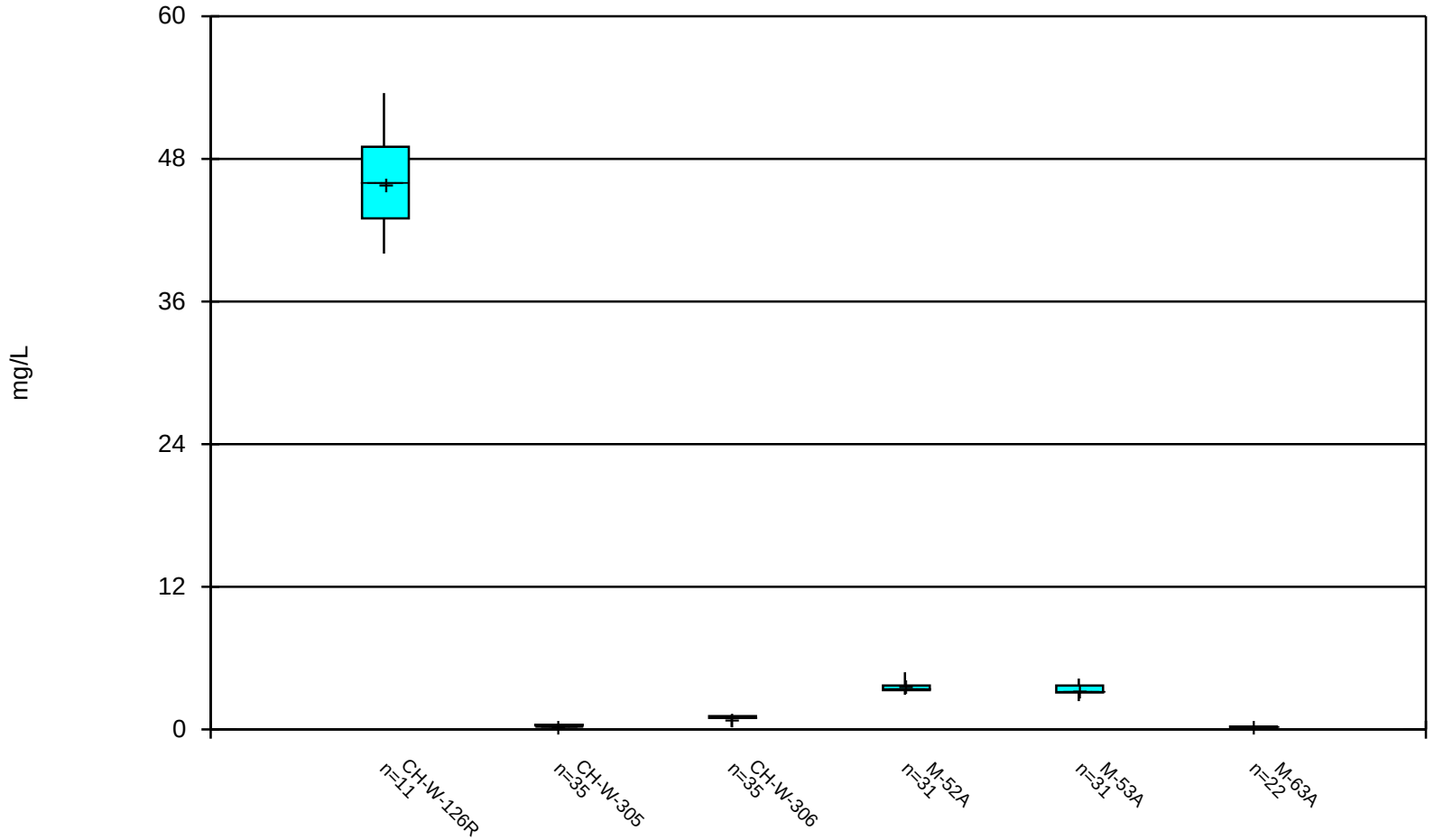
Box & Whiskers Plot



Constituent: Boron Analysis Run 2/23/2026 2:43 PM

Cholla Power Plant Client: WSP Data: APS Stats Table FAP Remedy Selection

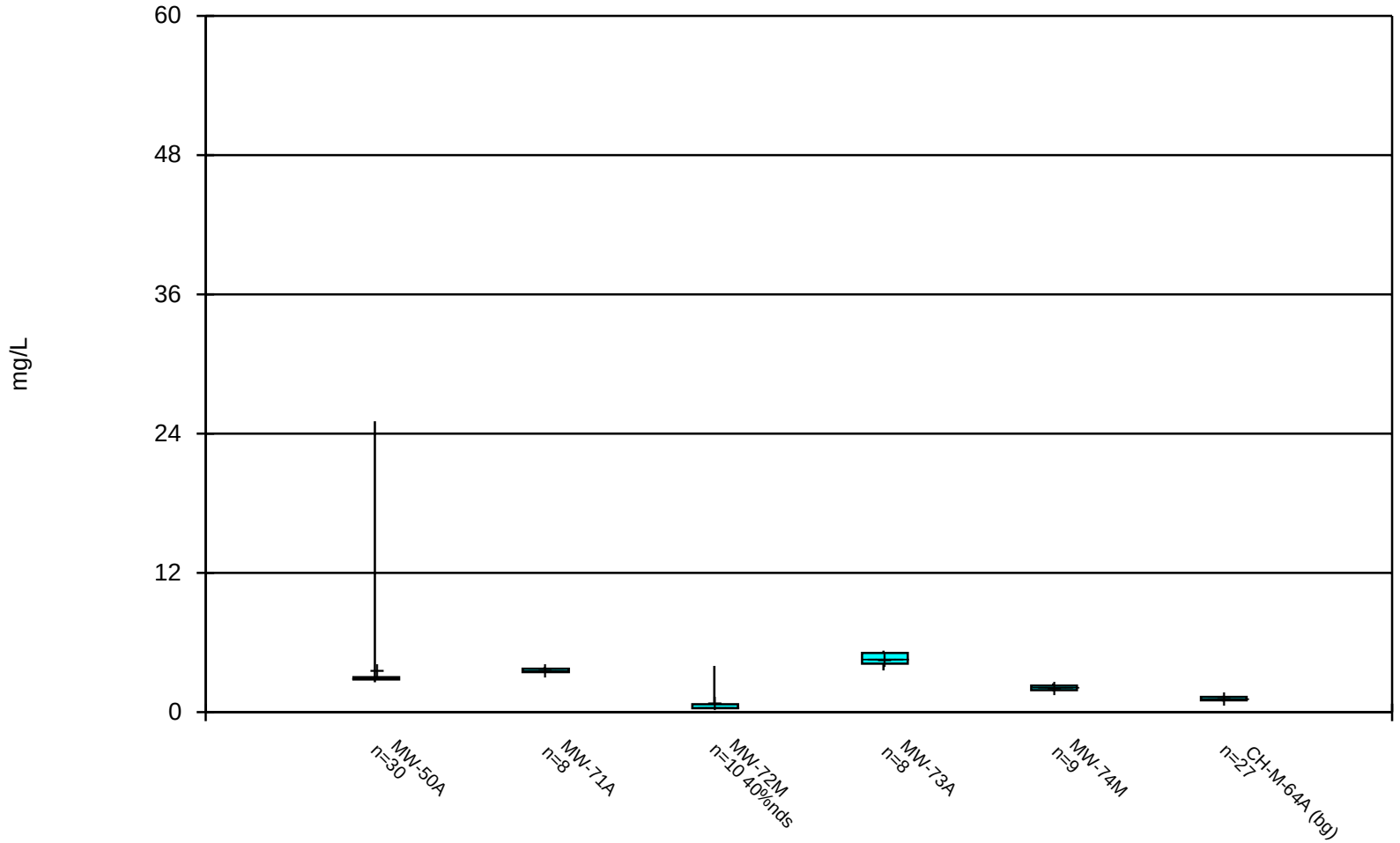
Box & Whiskers Plot



Constituent: Boron Analysis Run 2/23/2026 2:43 PM

Cholla Power Plant Client: WSP Data: APS Stats Table FAP Remedy Selection

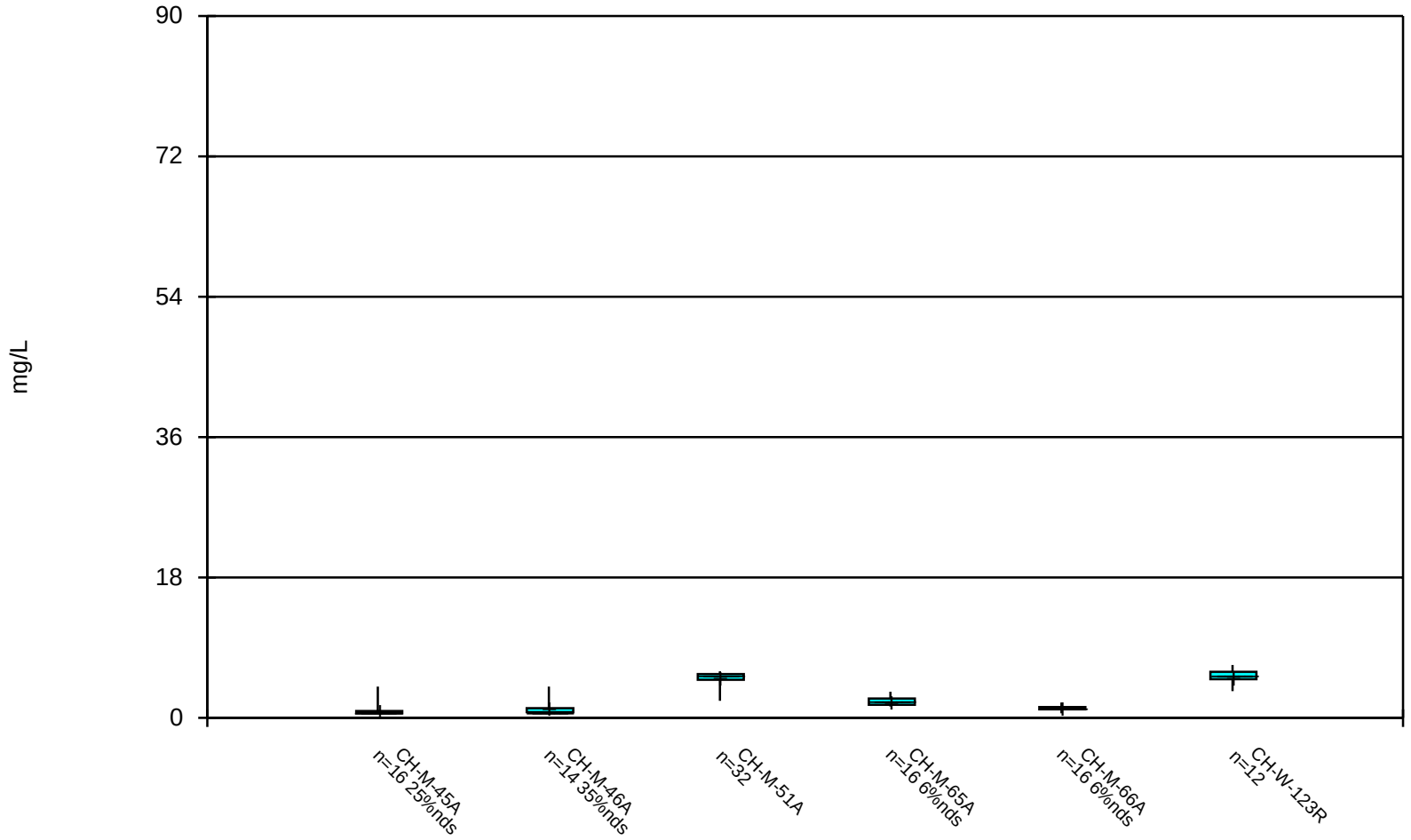
Box & Whiskers Plot



Constituent: Boron Analysis Run 2/23/2026 2:43 PM

Cholla Power Plant Client: WSP Data: APS Stats Table FAP Remedy Selection

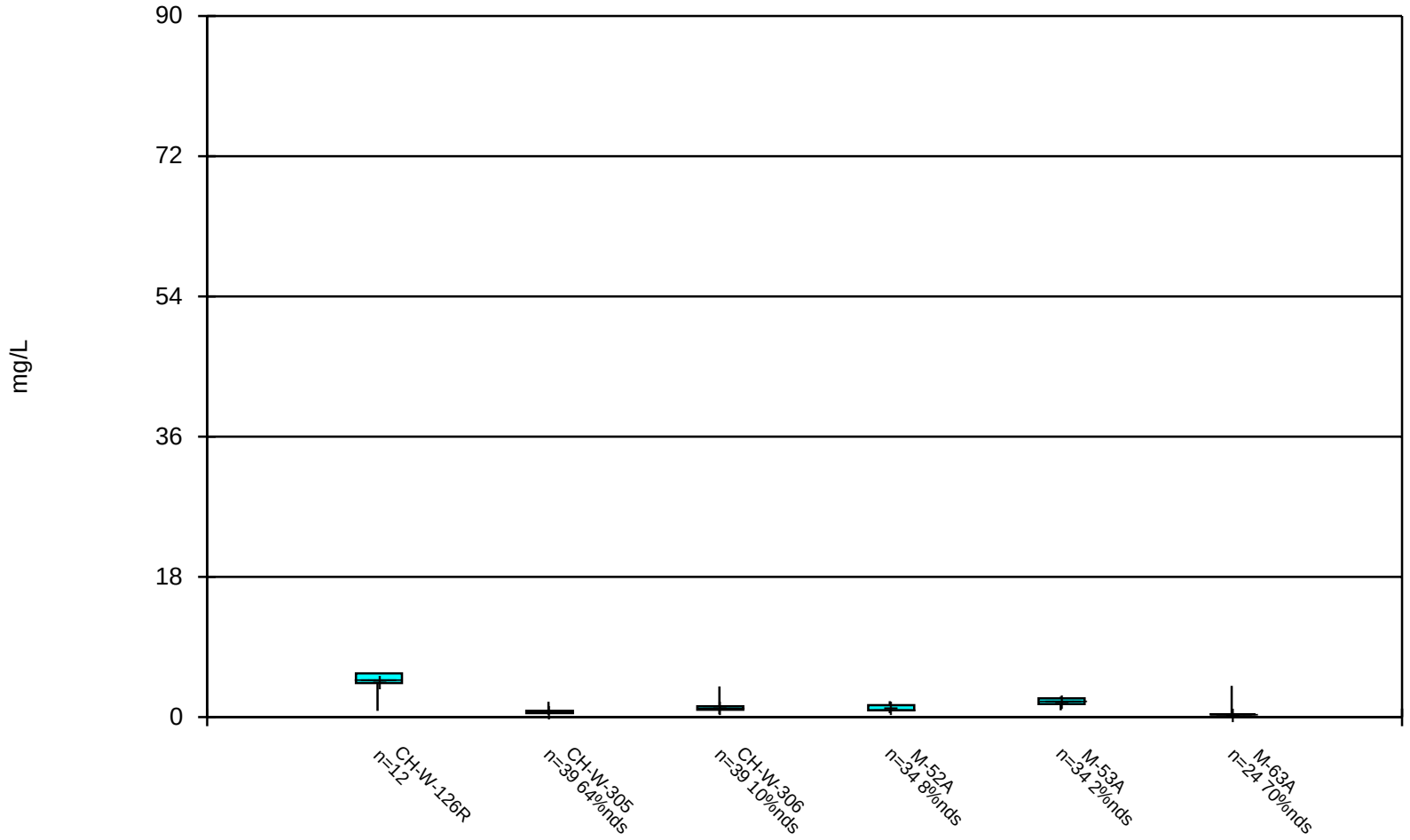
Box & Whiskers Plot



Constituent: Fluoride Analysis Run 2/23/2026 2:43 PM

Cholla Power Plant Client: WSP Data: APS Stats Table FAP Remedy Selection

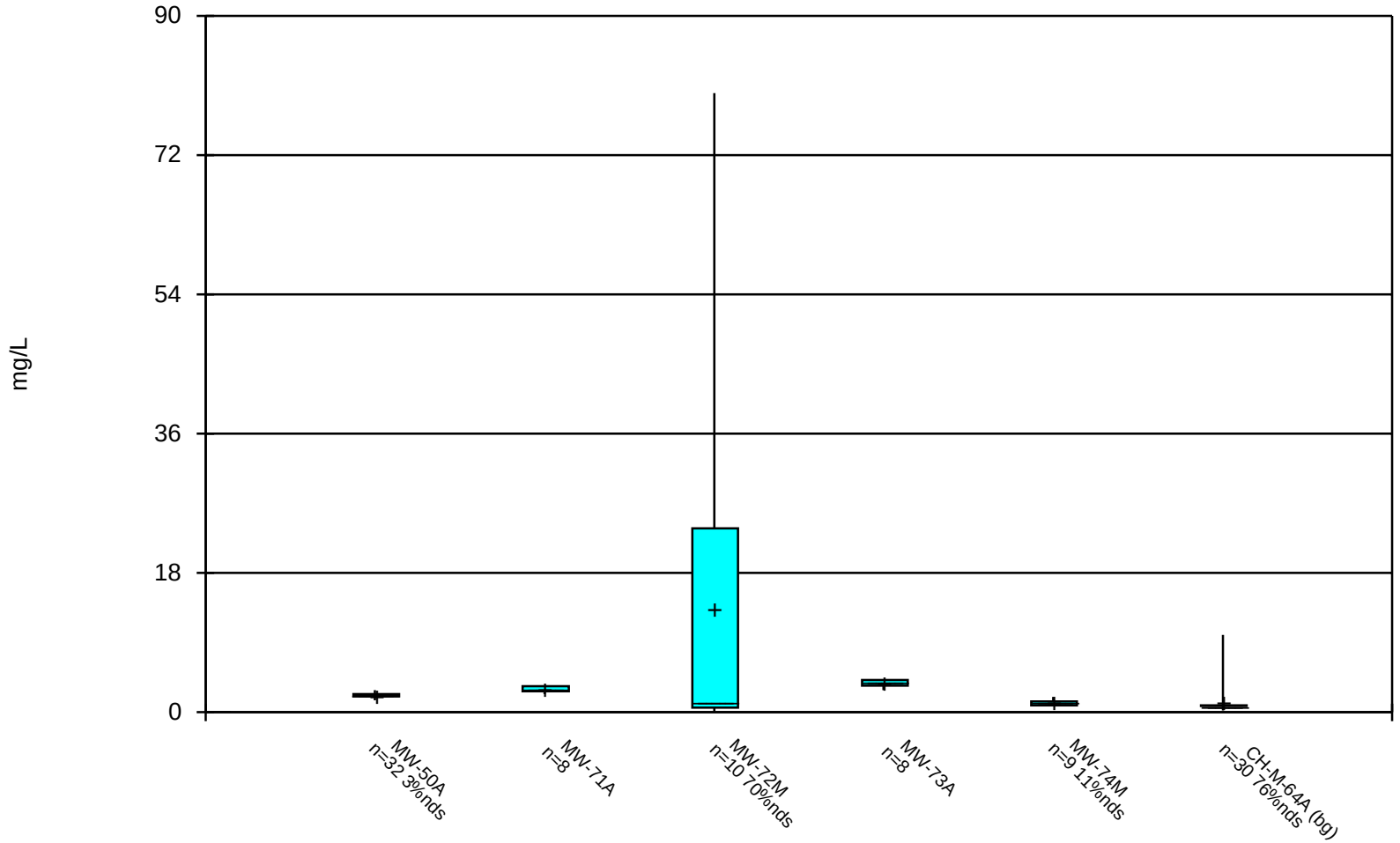
Box & Whiskers Plot



Constituent: Fluoride Analysis Run 2/23/2026 2:43 PM

Cholla Power Plant Client: WSP Data: APS Stats Table FAP Remedy Selection

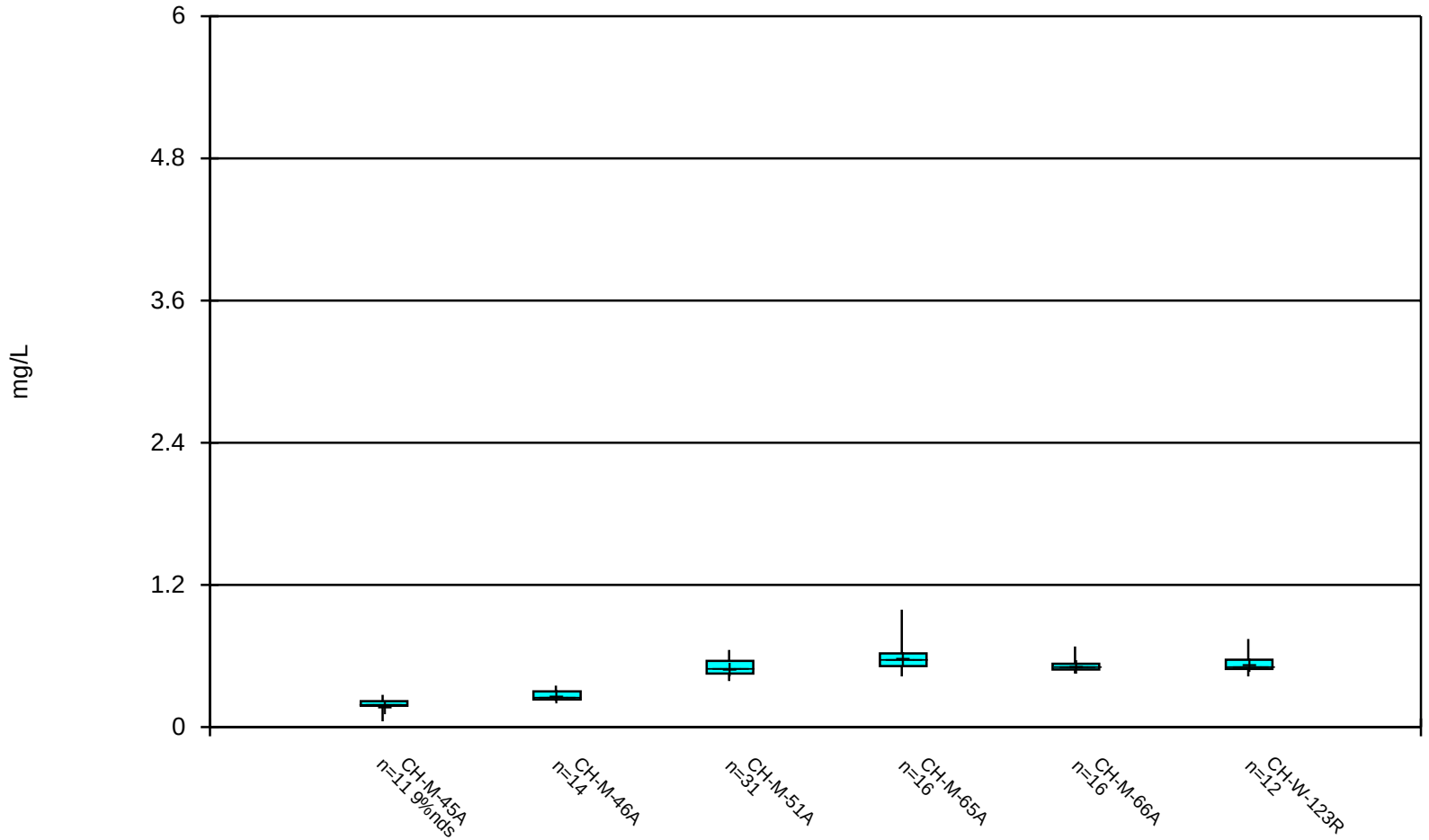
Box & Whiskers Plot



Constituent: Fluoride Analysis Run 2/23/2026 2:43 PM

Cholla Power Plant Client: WSP Data: APS Stats Table FAP Remedy Selection

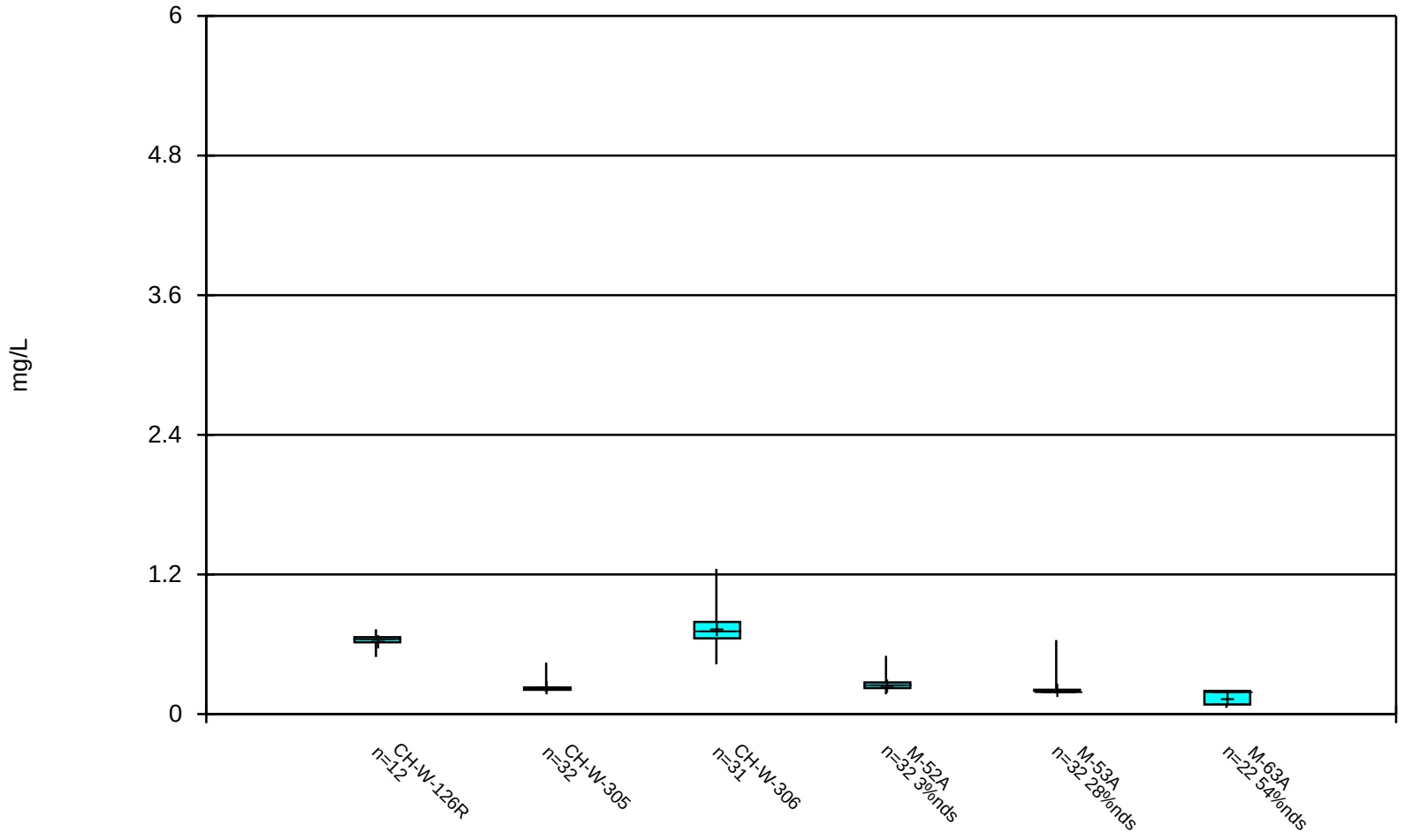
Box & Whiskers Plot



Constituent: Lithium Analysis Run 2/23/2026 2:43 PM

Cholla Power Plant Client: WSP Data: APS Stats Table FAP Remedy Selection

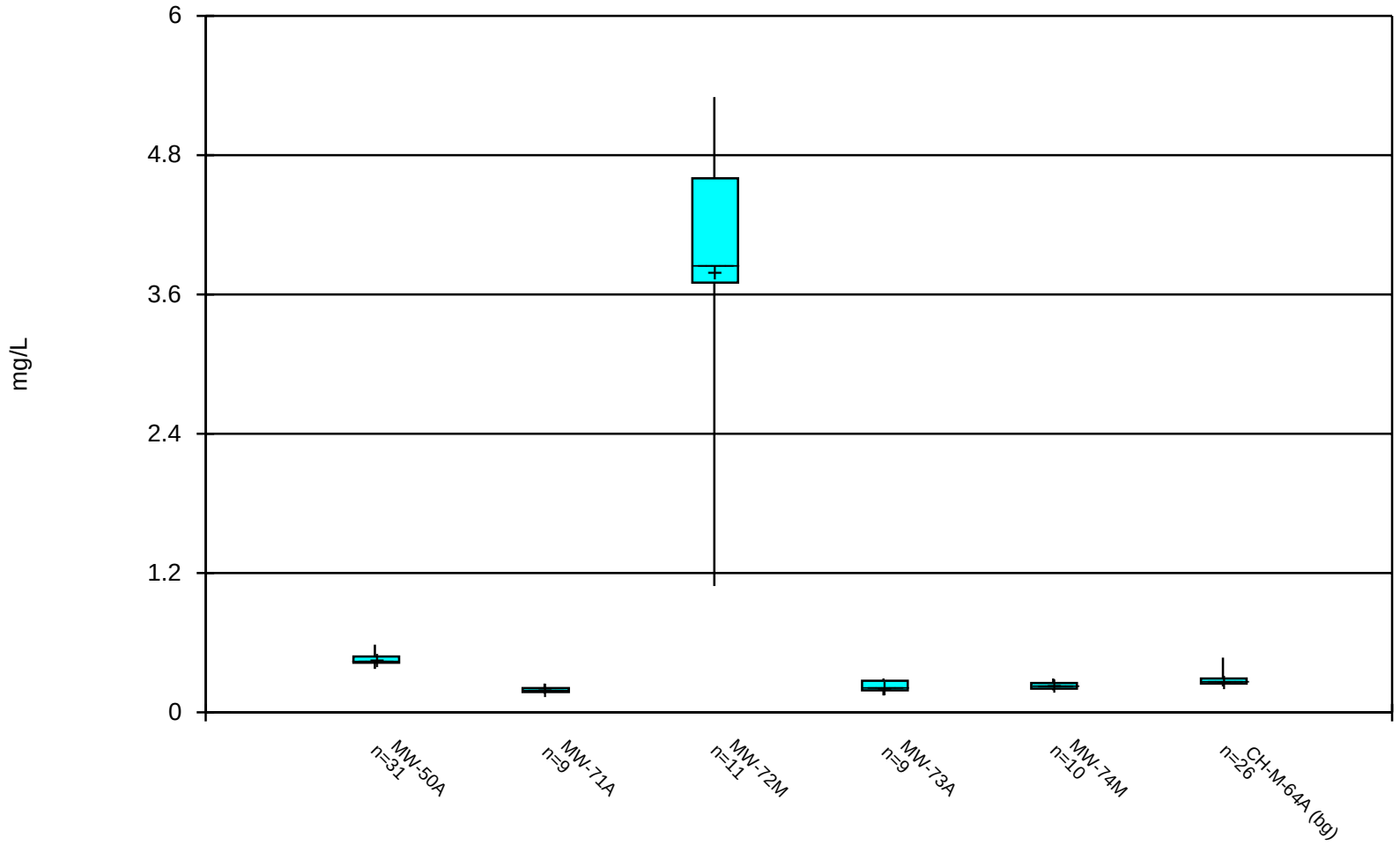
Box & Whiskers Plot



Constituent: Lithium Analysis Run 2/23/2026 2:43 PM

Cholla Power Plant Client: WSP Data: APS Stats Table FAP Remedy Selection

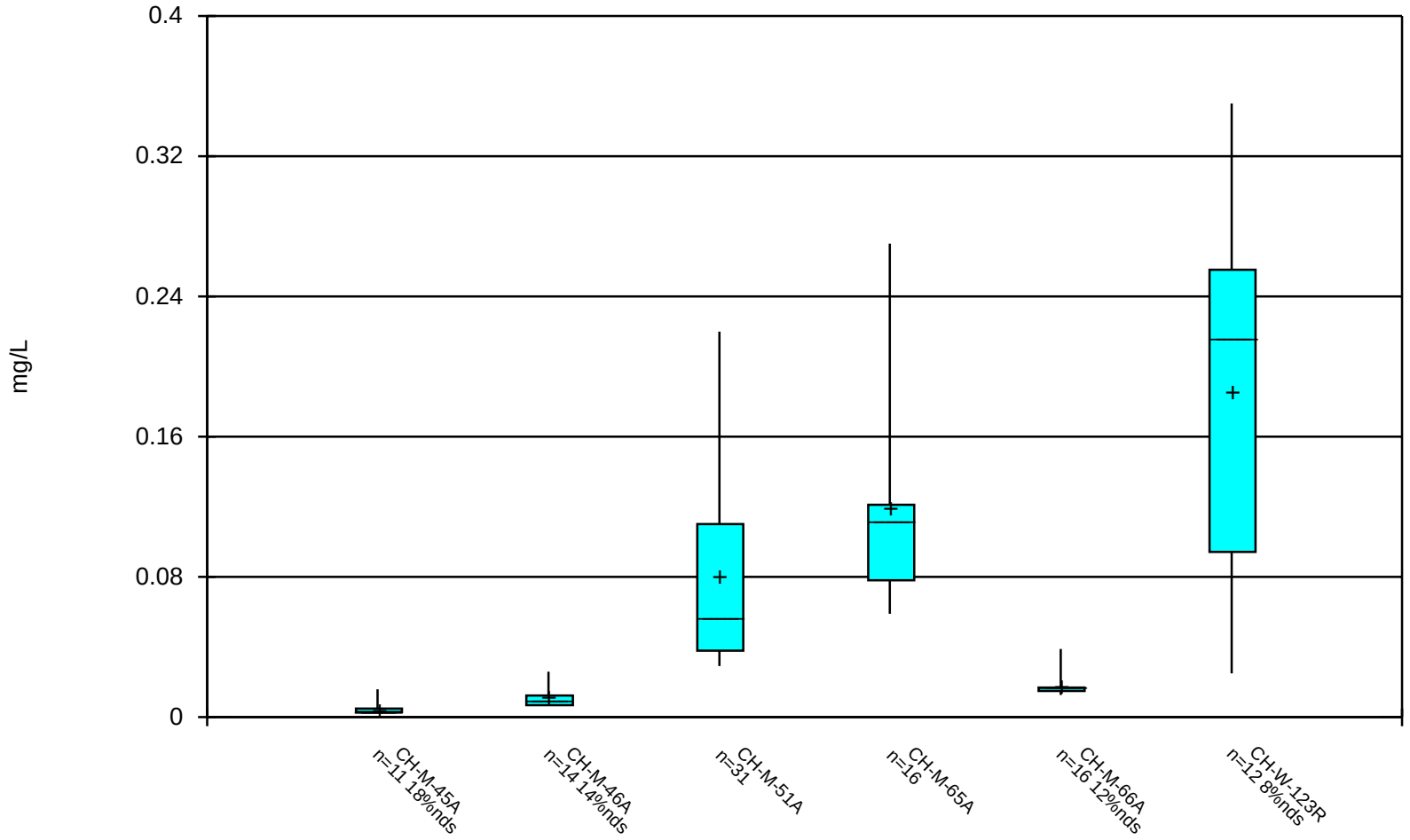
Box & Whiskers Plot



Constituent: Lithium Analysis Run 2/23/2026 2:43 PM

Cholla Power Plant Client: WSP Data: APS Stats Table FAP Remedy Selection

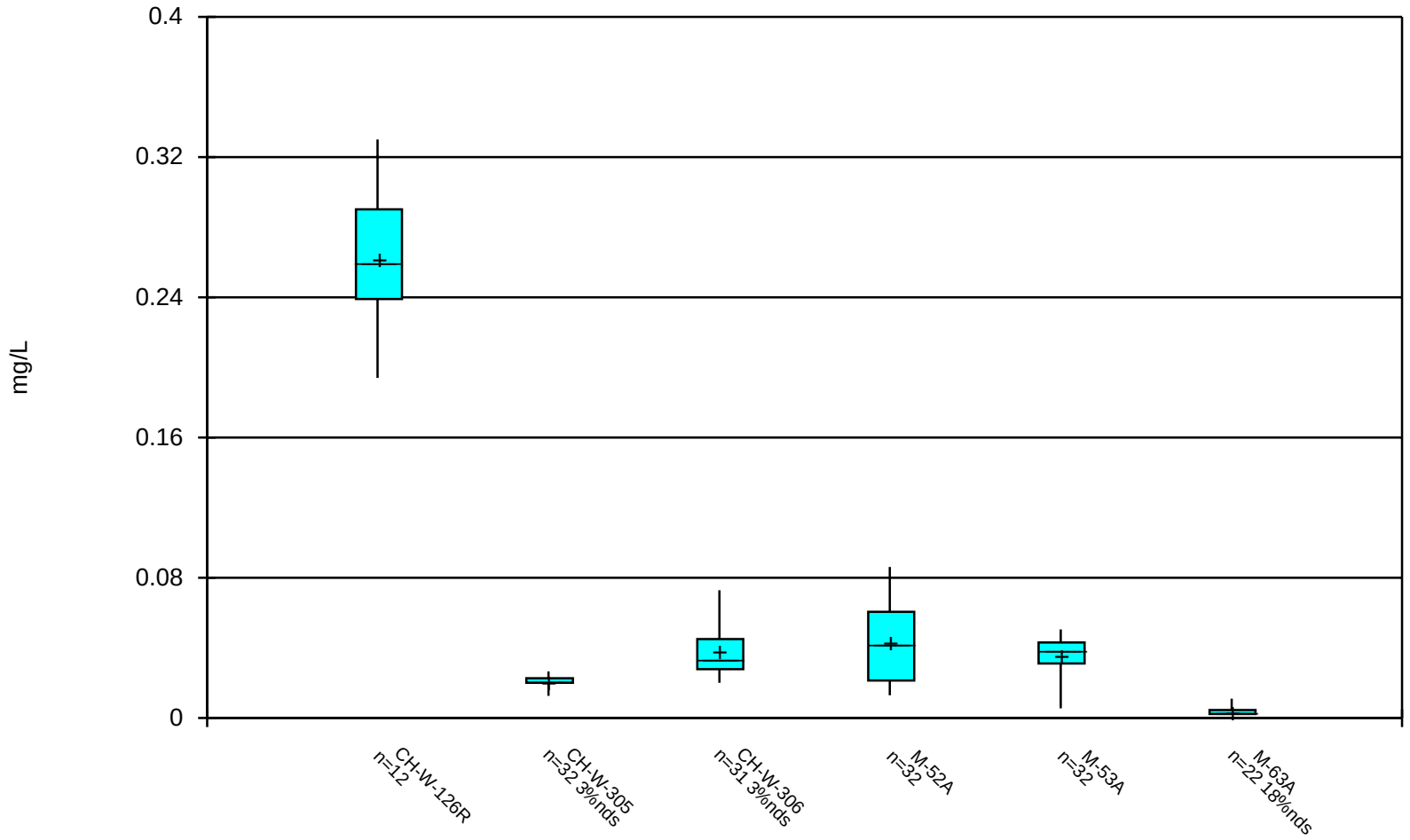
Box & Whiskers Plot



Constituent: Molybdenum Analysis Run 2/23/2026 2:43 PM

Cholla Power Plant Client: WSP Data: APS Stats Table FAP Remedy Selection

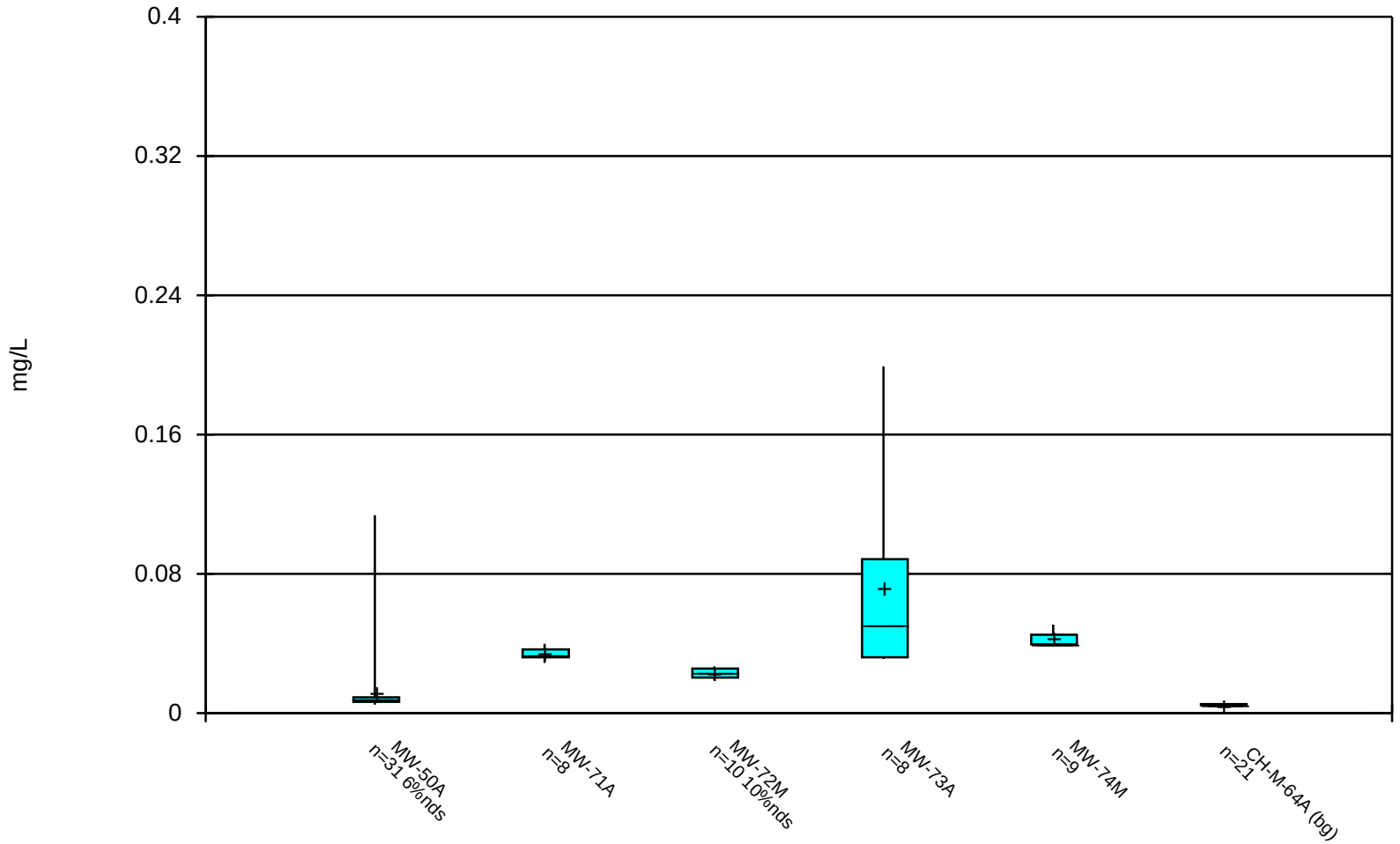
Box & Whiskers Plot



Constituent: Molybdenum Analysis Run 2/23/2026 2:43 PM

Cholla Power Plant Client: WSP Data: APS Stats Table FAP Remedy Selection

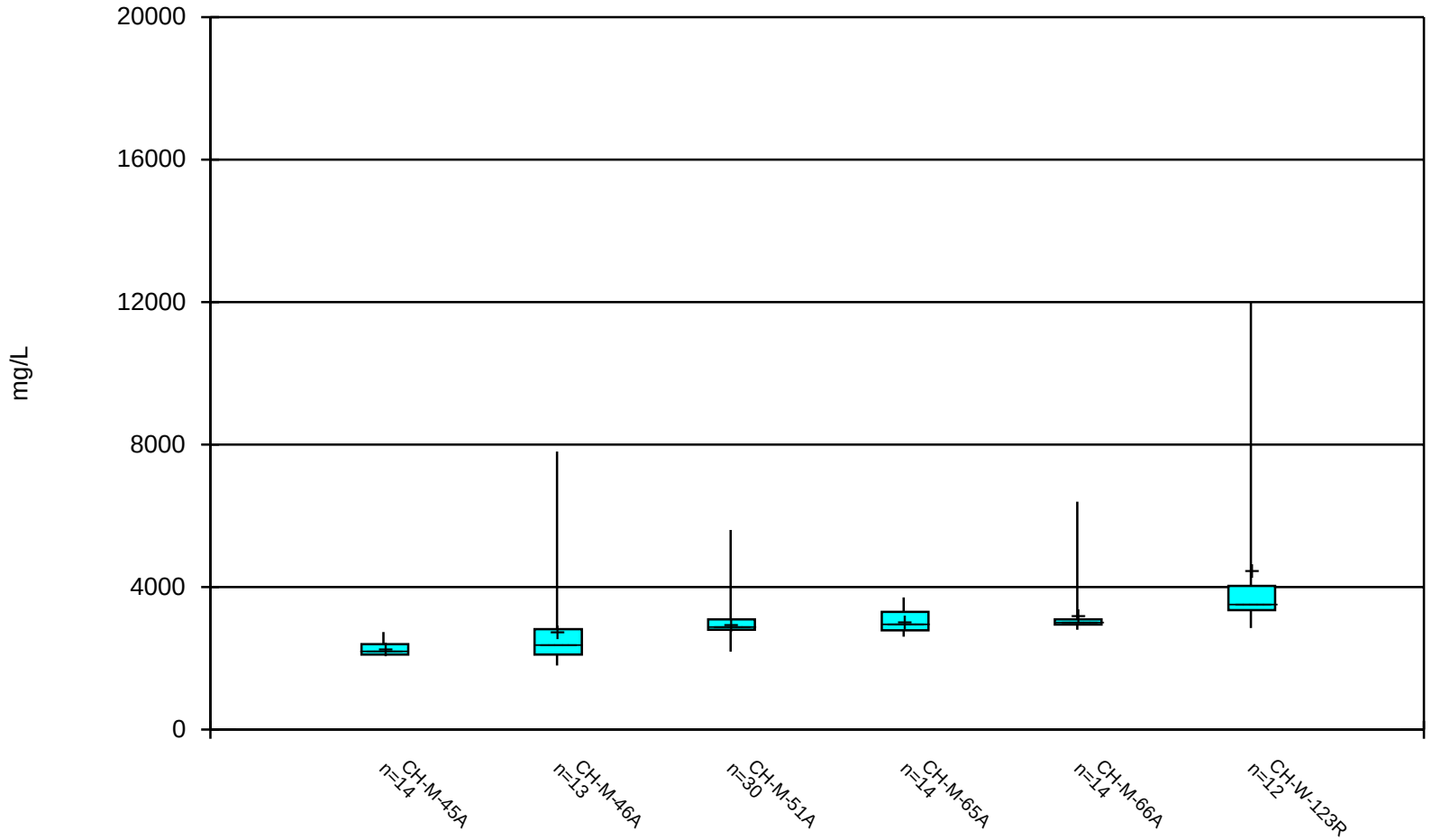
Box & Whiskers Plot



Constituent: Molybdenum Analysis Run 2/23/2026 2:44 PM

Cholla Power Plant Client: WSP Data: APS Stats Table FAP Remedy Selection

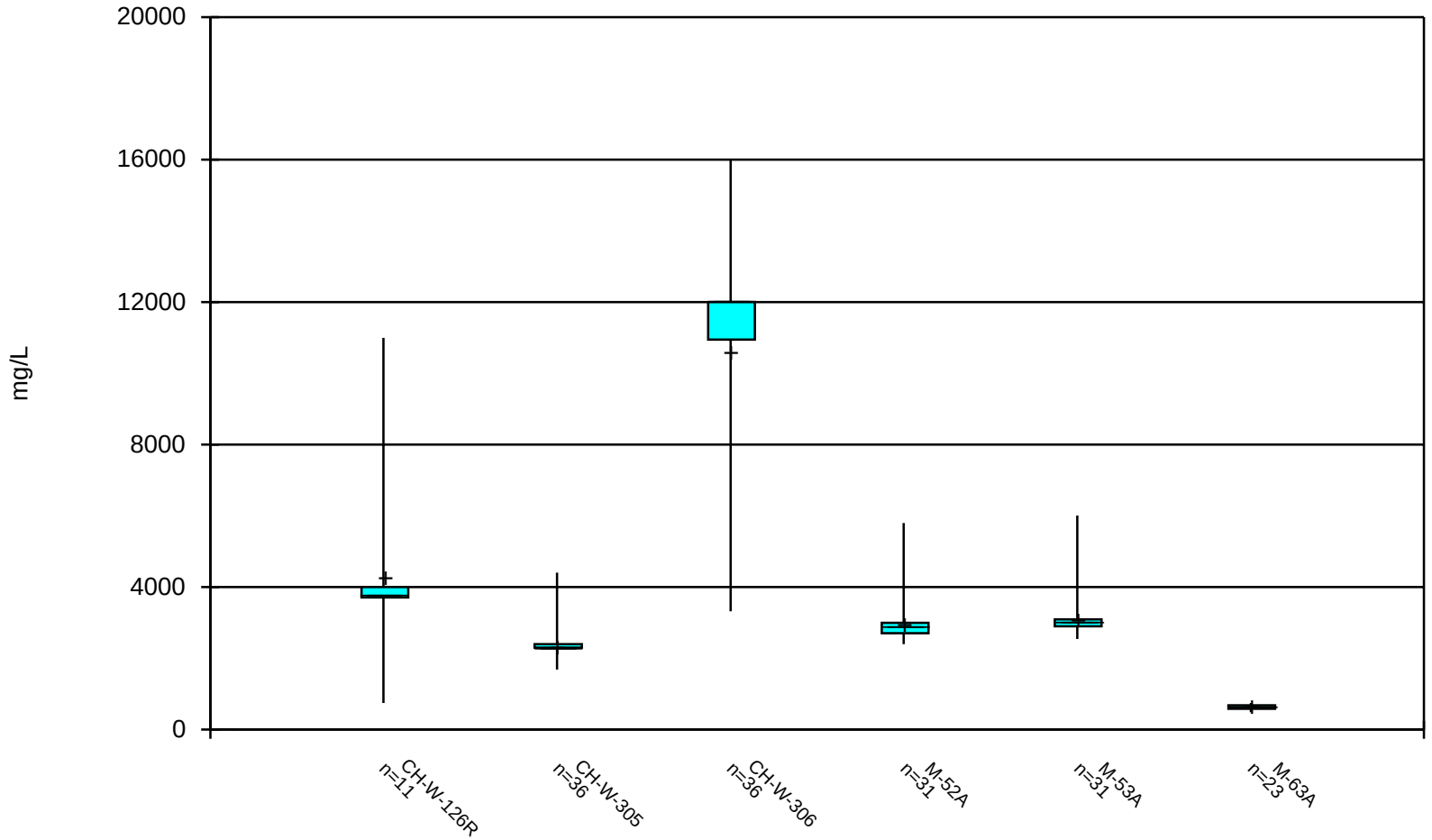
Box & Whiskers Plot



Constituent: Sulfate Analysis Run 2/23/2026 2:44 PM

Cholla Power Plant Client: WSP Data: APS Stats Table FAP Remedy Selection

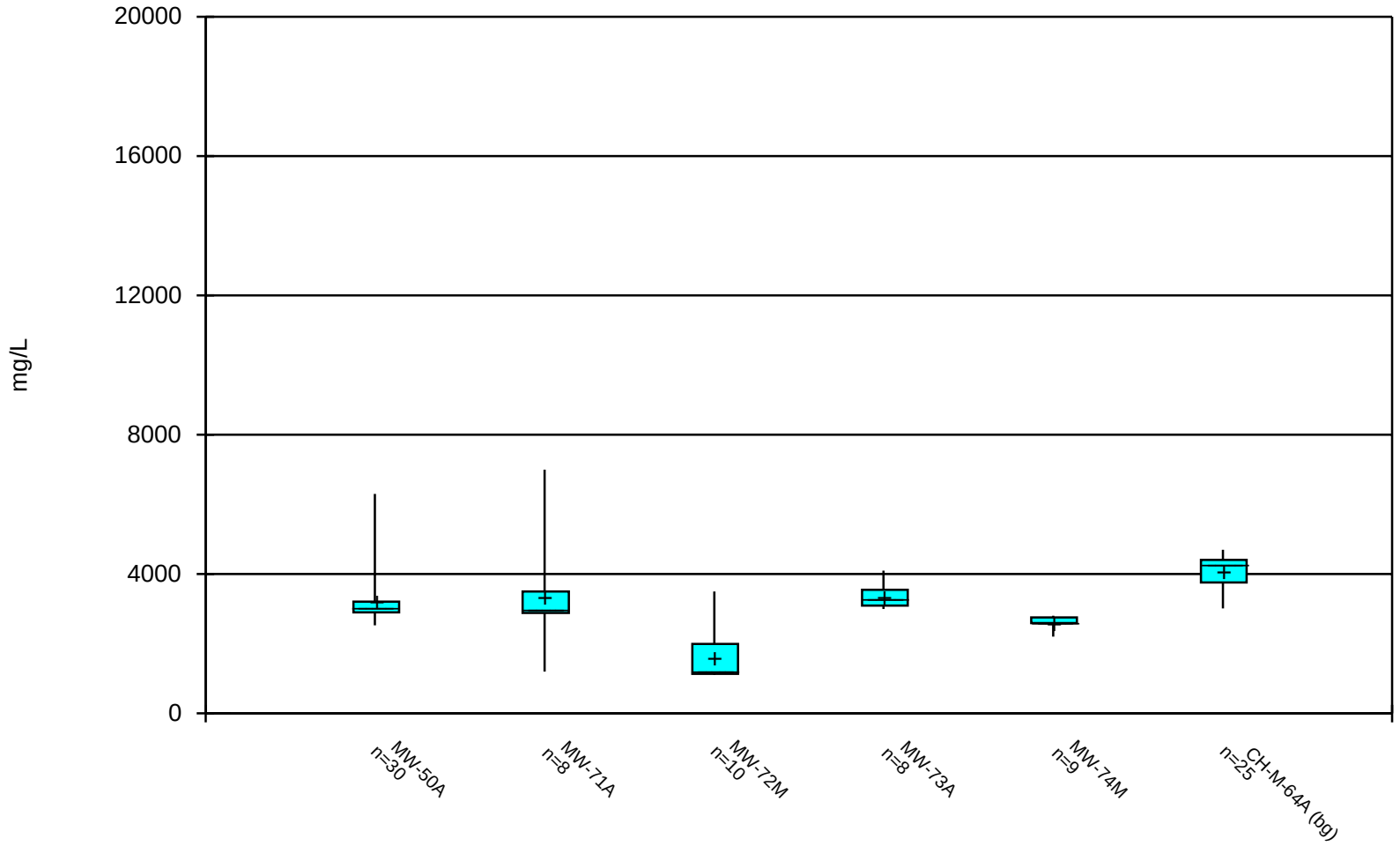
Box & Whiskers Plot



Constituent: Sulfate Analysis Run 2/23/2026 2:44 PM

Cholla Power Plant Client: WSP Data: APS Stats Table FAP Remedy Selection

Box & Whiskers Plot

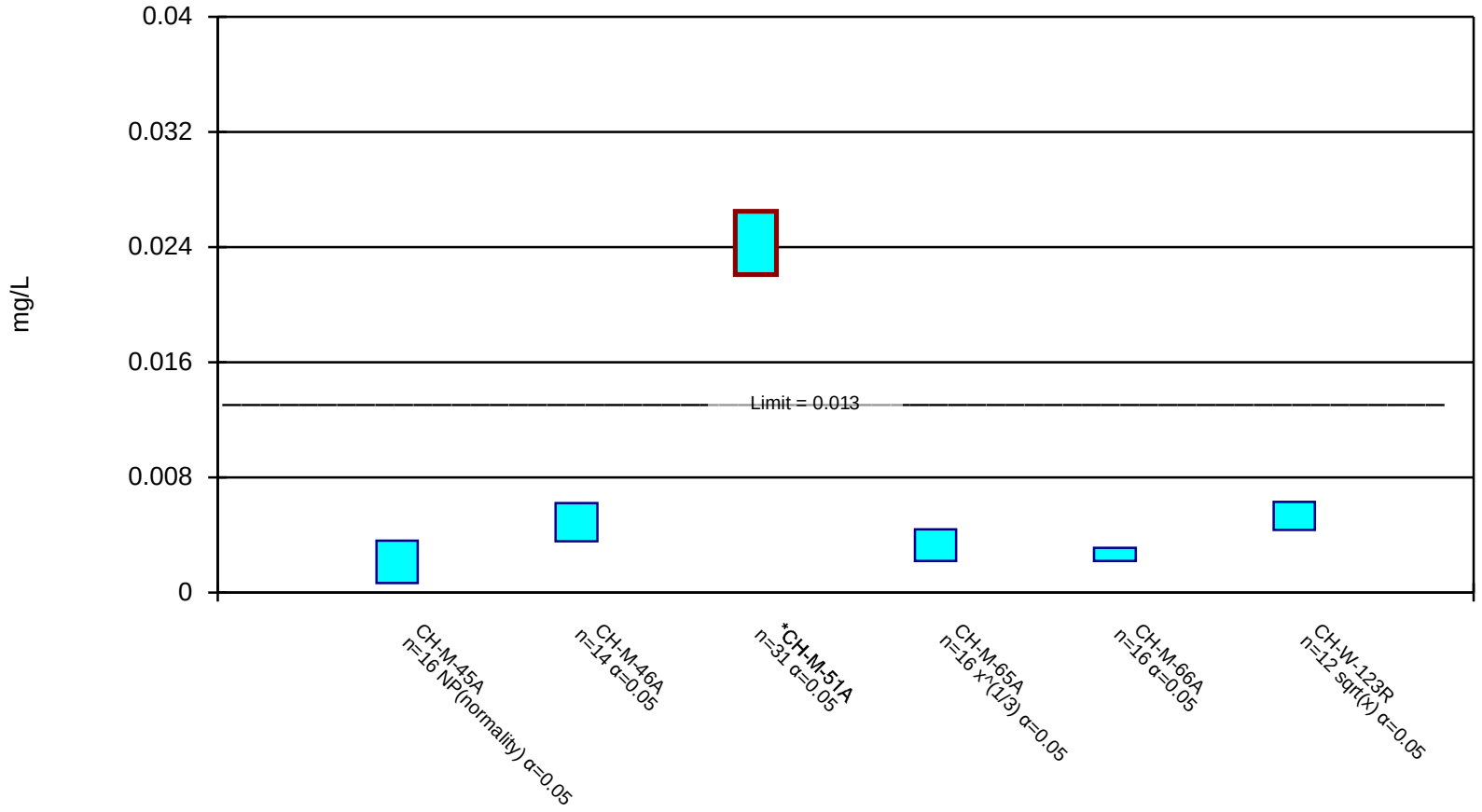


Constituent: Sulfate Analysis Run 2/23/2026 2:44 PM

Cholla Power Plant Client: WSP Data: APS Stats Table FAP Remedy Selection

Parametric and Non-Parametric (NP) Confidence Interval

Compliance limit is exceeded.* Normality Test: Shapiro Wilk, alpha based on n.

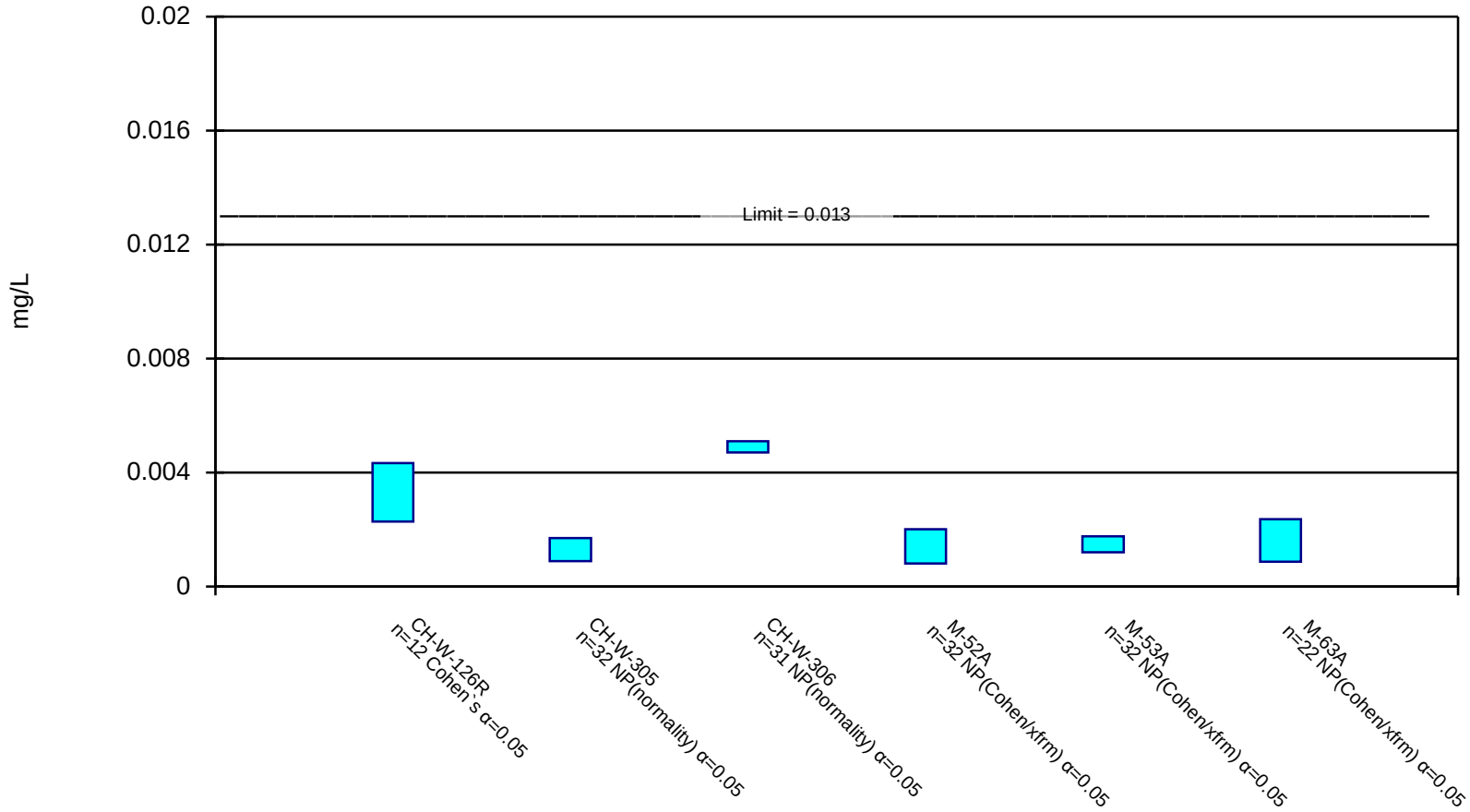


Constituent: Arsenic Analysis Run 2/23/2026 2:44 PM

Cholla Power Plant Client: WSP Data: APS Stats Table FAP Remedy Selection

Parametric and Non-Parametric (NP) Confidence Interval

Compliance Limit is not exceeded. Normality Test: Shapiro Wilk, alpha based on n.

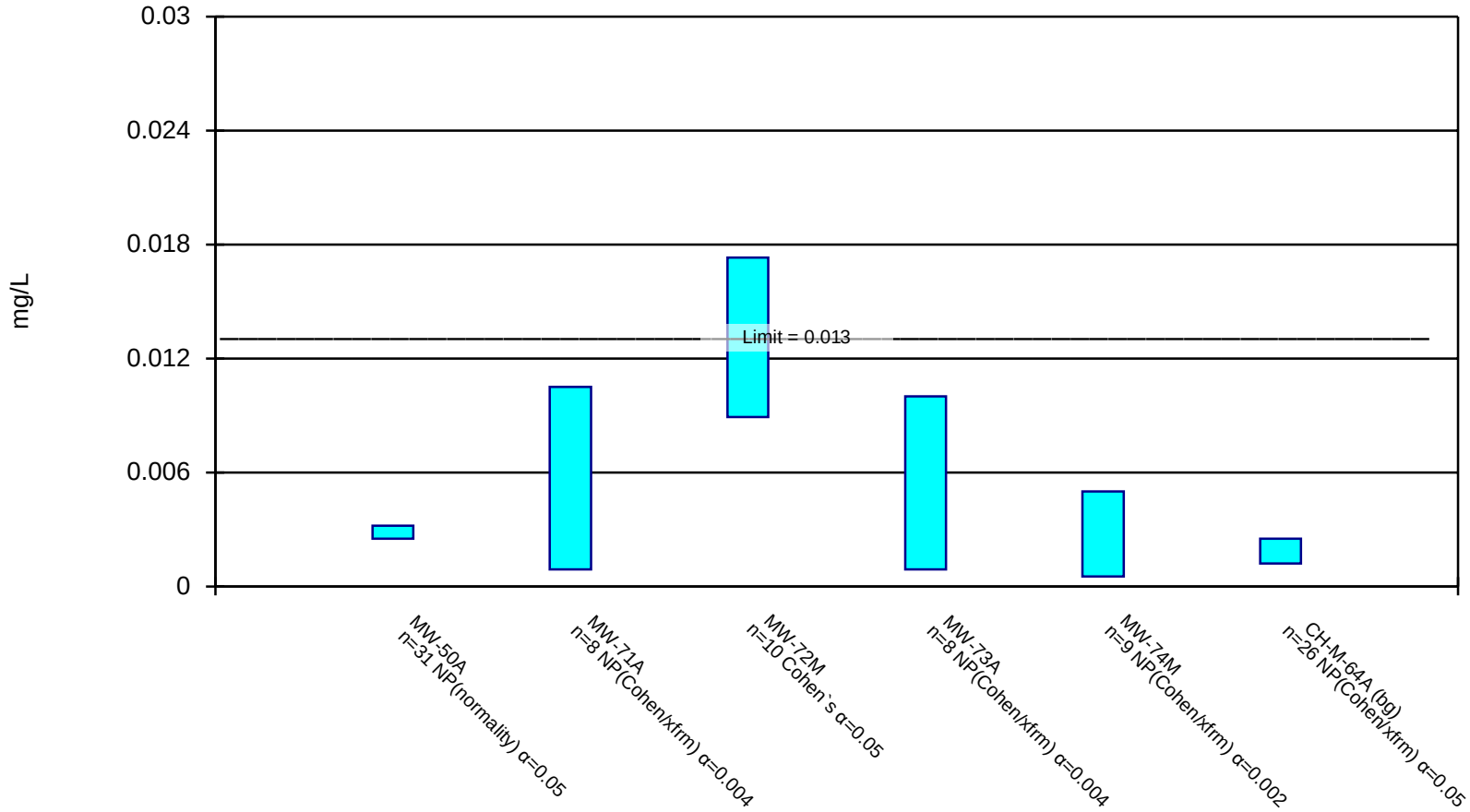


Constituent: Arsenic Analysis Run 2/23/2026 2:44 PM

Cholla Power Plant Client: WSP Data: APS Stats Table FAP Remedy Selection

Parametric and Non-Parametric (NP) Confidence Interval

Compliance Limit is not exceeded. Normality Test: Shapiro Wilk, alpha based on n.

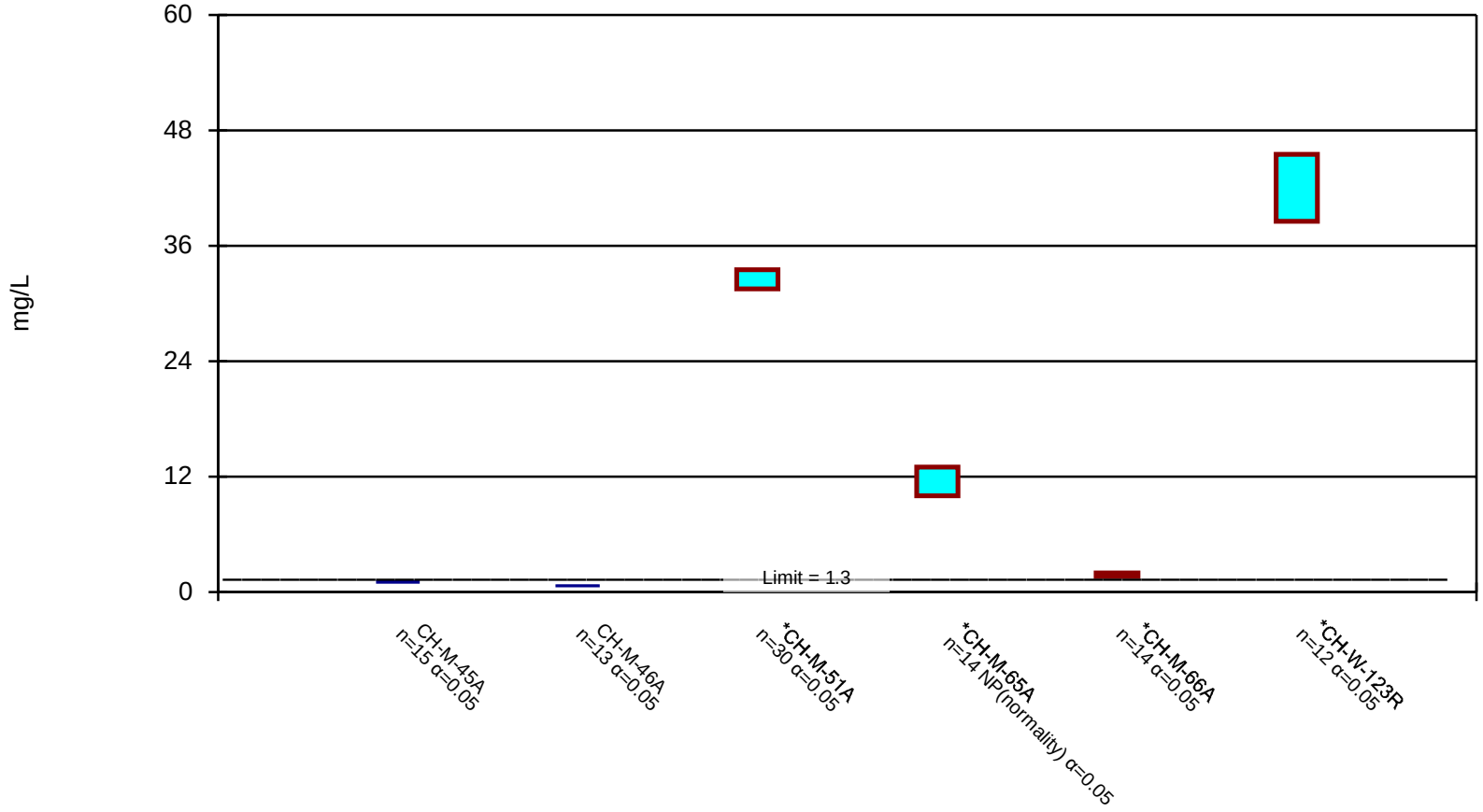


Constituent: Arsenic Analysis Run 2/23/2026 2:44 PM

Cholla Power Plant Client: WSP Data: APS Stats Table FAP Remedy Selection

Parametric and Non-Parametric (NP) Confidence Interval

Compliance limit is exceeded.* Normality Test: Shapiro Wilk, alpha based on n.

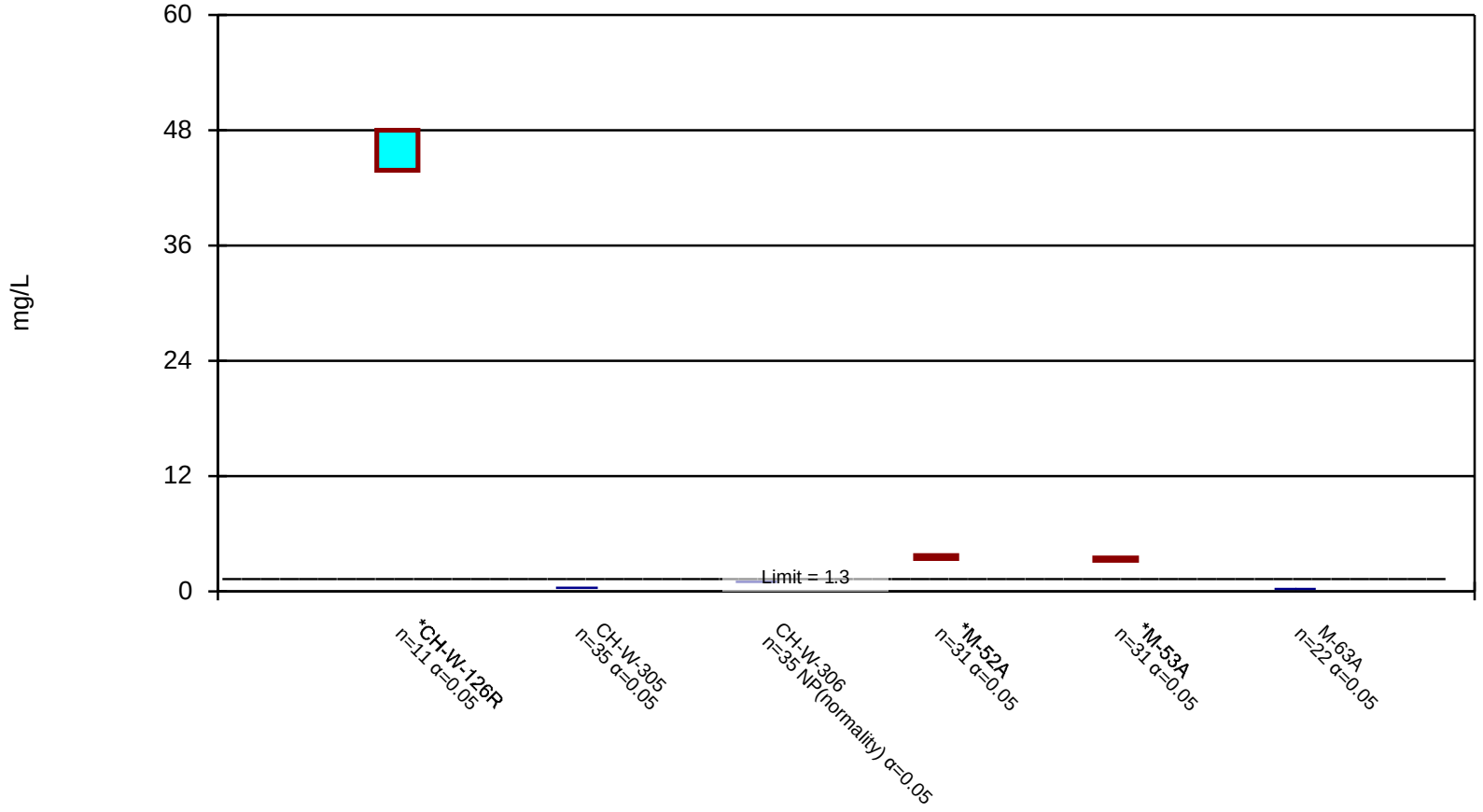


Constituent: Boron Analysis Run 2/23/2026 2:44 PM

Cholla Power Plant Client: WSP Data: APS Stats Table FAP Remedy Selection

Parametric and Non-Parametric (NP) Confidence Interval

Compliance limit is exceeded.* Normality Test: Shapiro Wilk, alpha based on n.

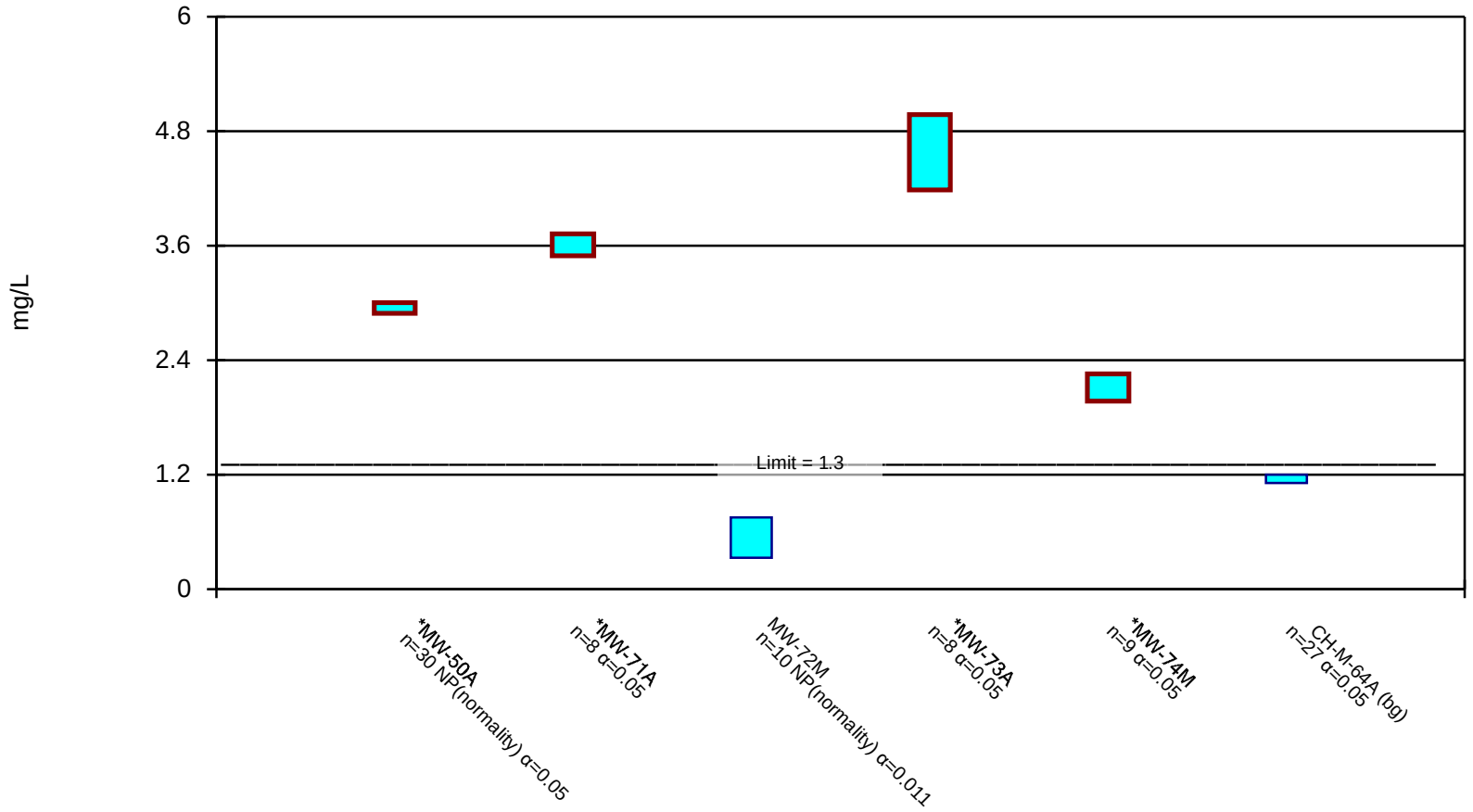


Constituent: Boron Analysis Run 2/23/2026 2:44 PM

Cholla Power Plant Client: WSP Data: APS Stats Table FAP Remedy Selection

Parametric and Non-Parametric (NP) Confidence Interval

Compliance limit is exceeded.* Normality Test: Shapiro Wilk, alpha based on n.

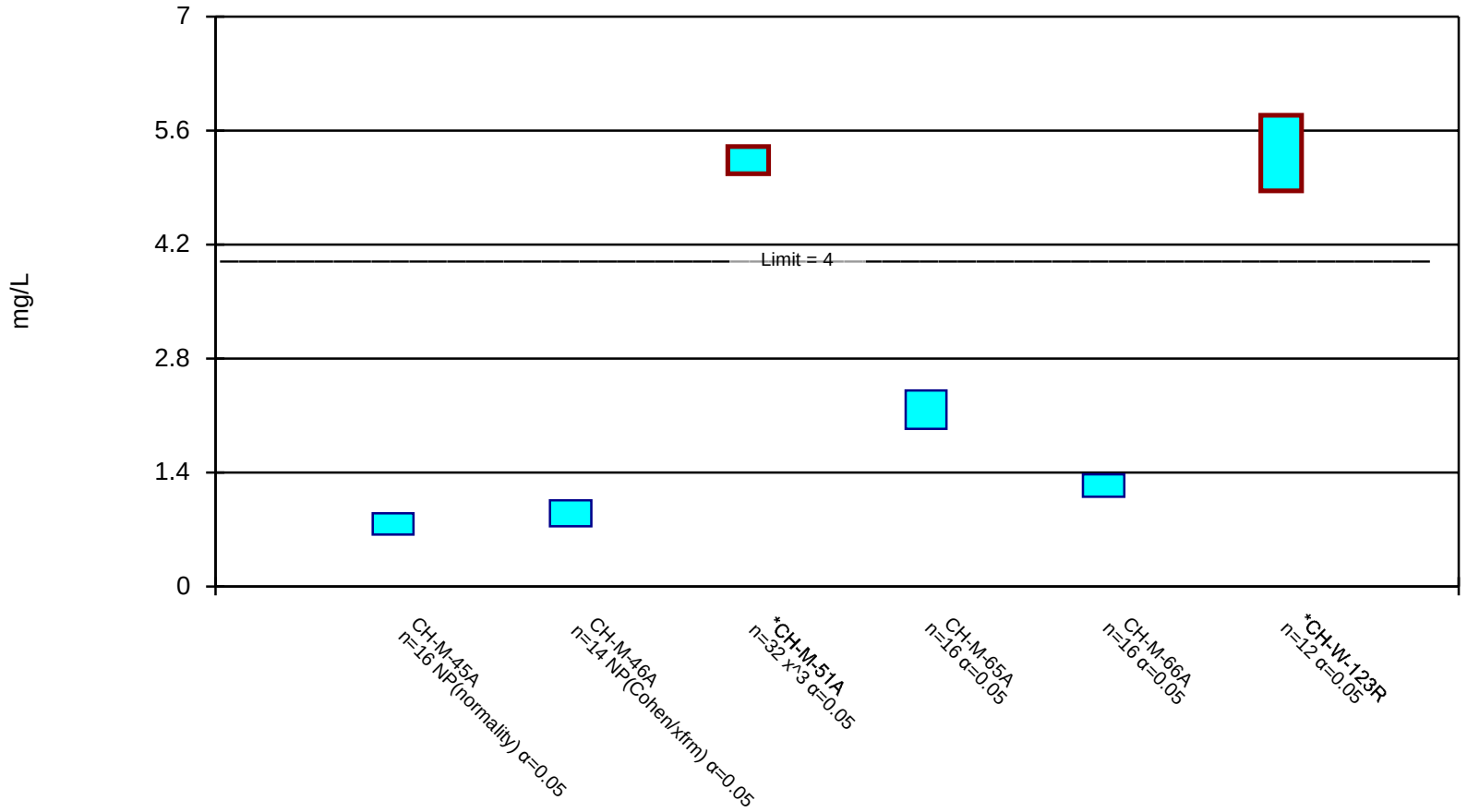


Constituent: Boron Analysis Run 2/23/2026 2:44 PM

Cholla Power Plant Client: WSP Data: APS Stats Table FAP Remedy Selection

Parametric and Non-Parametric (NP) Confidence Interval

Compliance limit is exceeded.* Normality Test: Shapiro Wilk, alpha based on n.

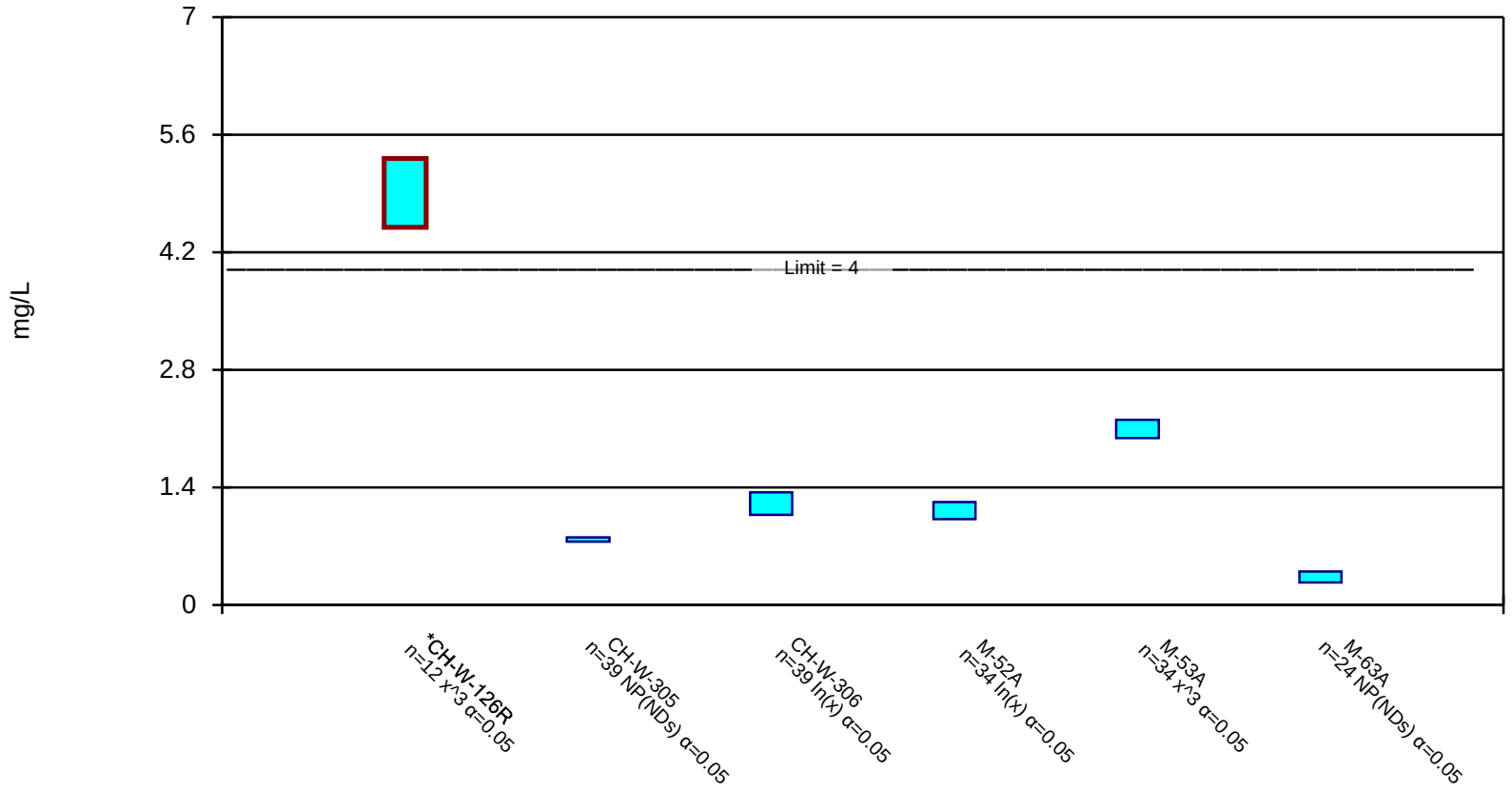


Constituent: Fluoride Analysis Run 2/23/2026 2:44 PM

Cholla Power Plant Client: WSP Data: APS Stats Table FAP Remedy Selection

Parametric and Non-Parametric (NP) Confidence Interval

Compliance limit is exceeded.* Normality Test: Shapiro Wilk, alpha based on n.

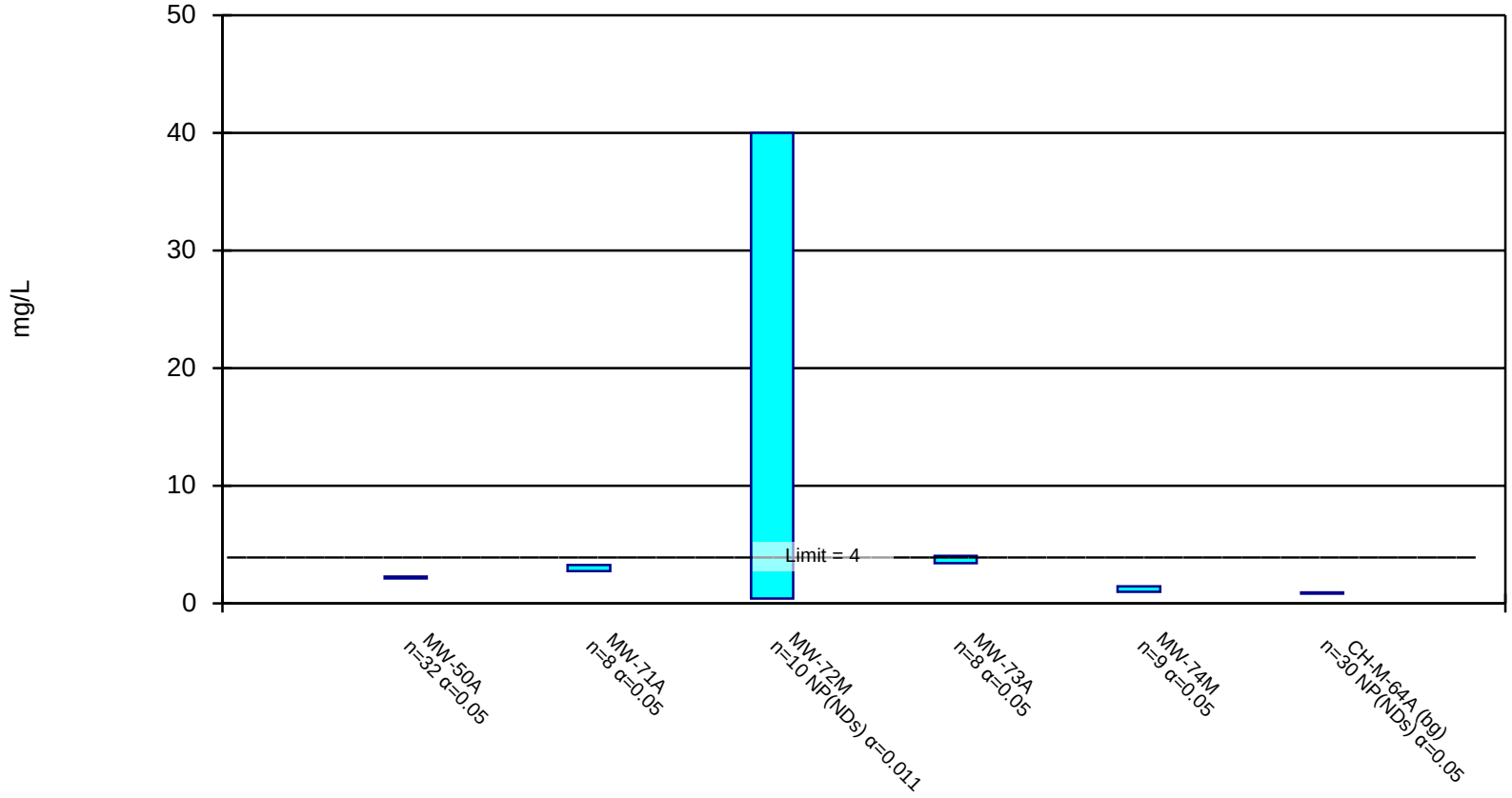


Constituent: Fluoride Analysis Run 2/23/2026 2:44 PM

Cholla Power Plant Client: WSP Data: APS Stats Table FAP Remedy Selection

Parametric and Non-Parametric (NP) Confidence Interval

Compliance Limit is not exceeded. Normality Test: Shapiro Wilk, alpha based on n.

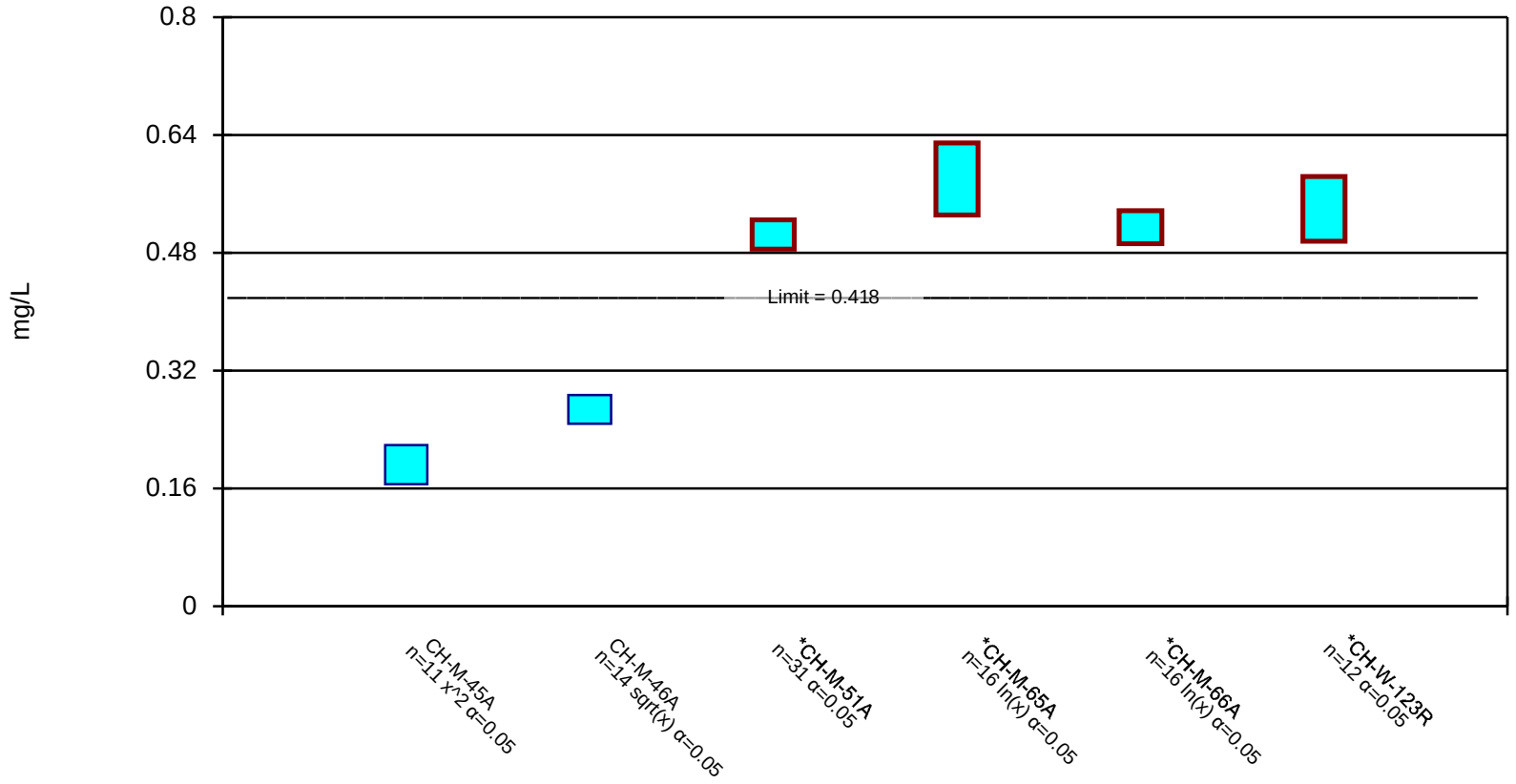


Constituent: Fluoride Analysis Run 2/23/2026 2:44 PM

Cholla Power Plant Client: WSP Data: APS Stats Table FAP Remedy Selection

Parametric Confidence Interval

Compliance limit is exceeded.* Normality Test: Shapiro Wilk, alpha based on n.

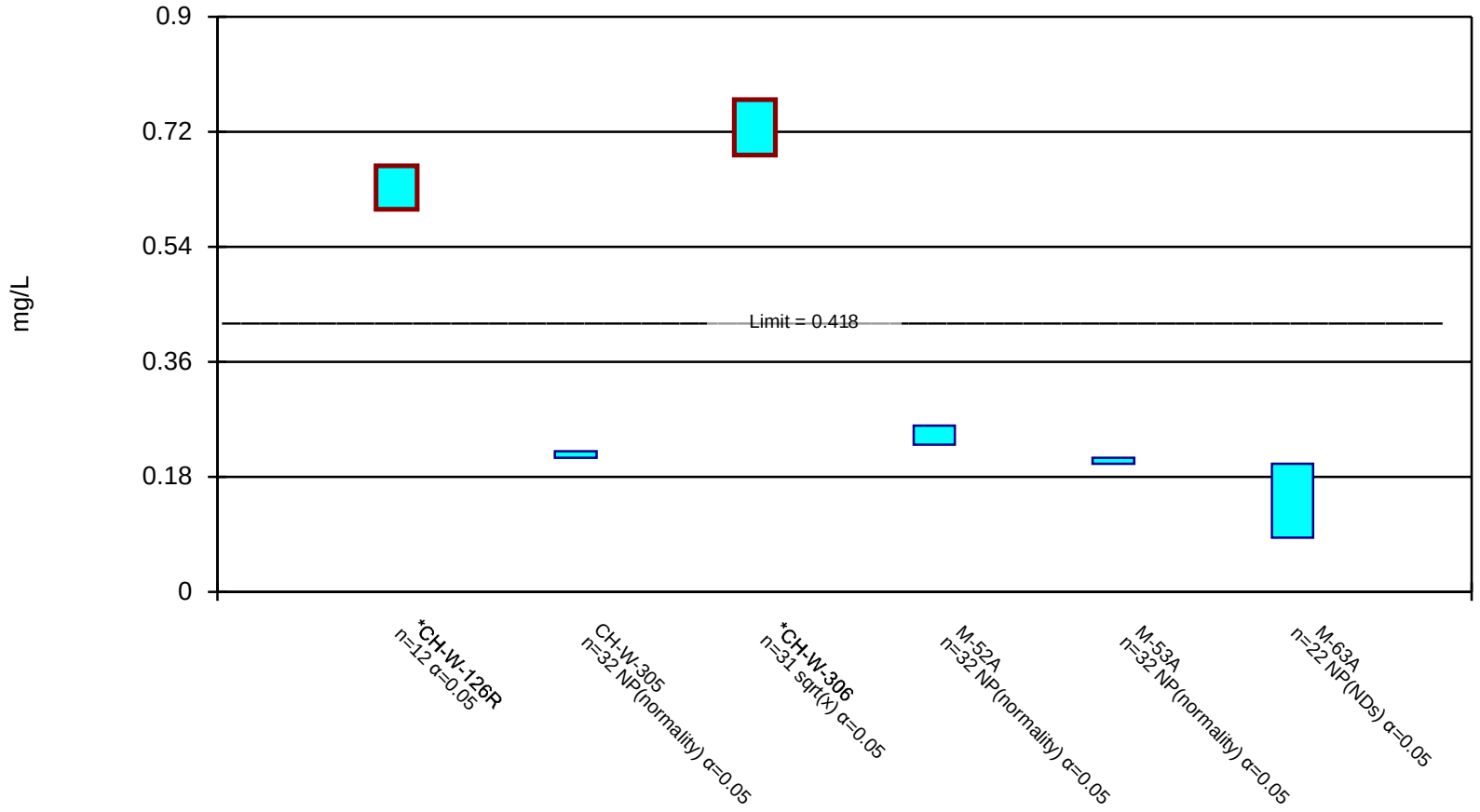


Constituent: Lithium Analysis Run 2/23/2026 2:44 PM

Cholla Power Plant Client: WSP Data: APS Stats Table FAP Remedy Selection

Parametric and Non-Parametric (NP) Confidence Interval

Compliance limit is exceeded.* Normality Test: Shapiro Wilk, alpha based on n.

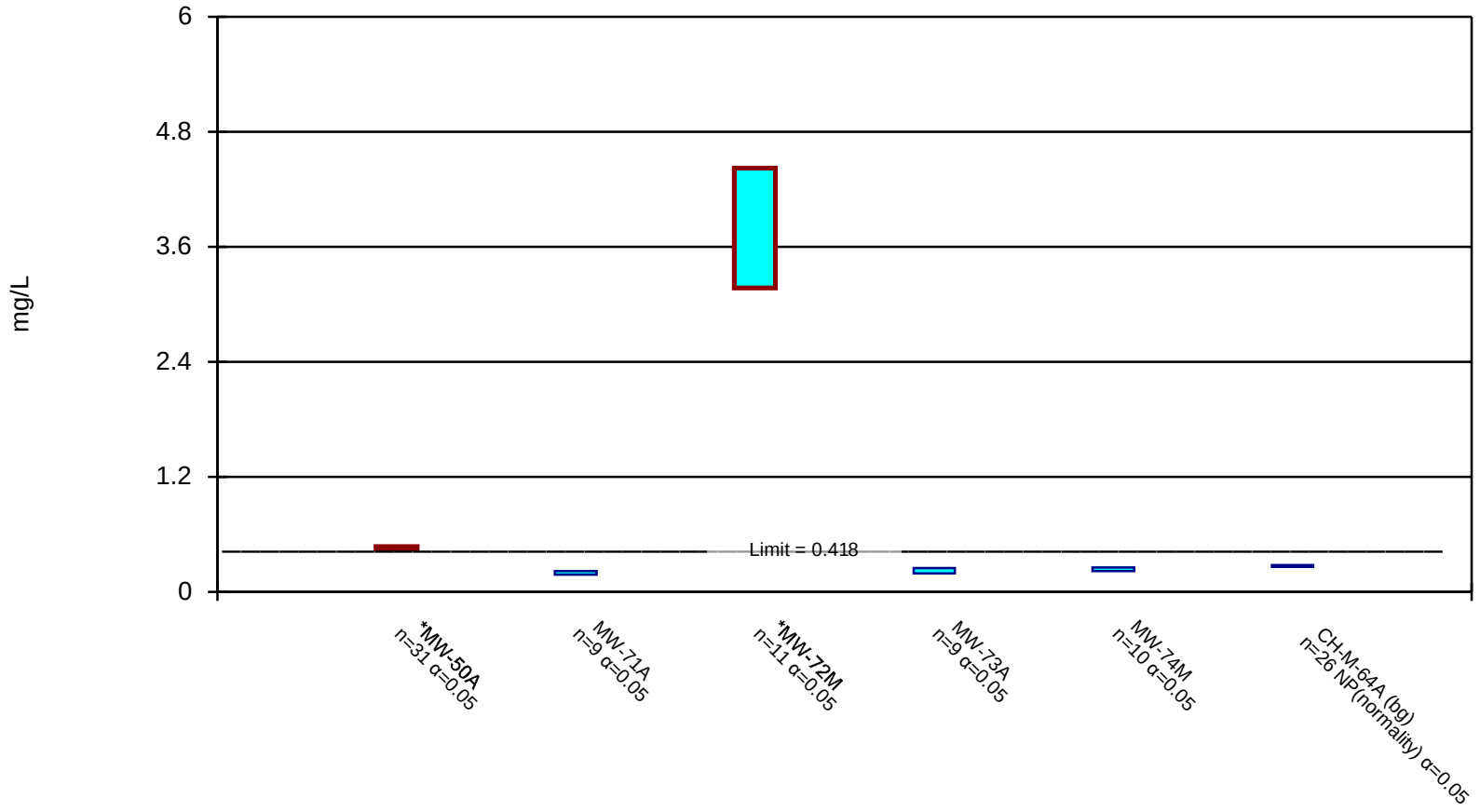


Constituent: Lithium Analysis Run 2/23/2026 2:44 PM

Cholla Power Plant Client: WSP Data: APS Stats Table FAP Remedy Selection

Parametric and Non-Parametric (NP) Confidence Interval

Compliance limit is exceeded.* Normality Test: Shapiro Wilk, alpha based on n.

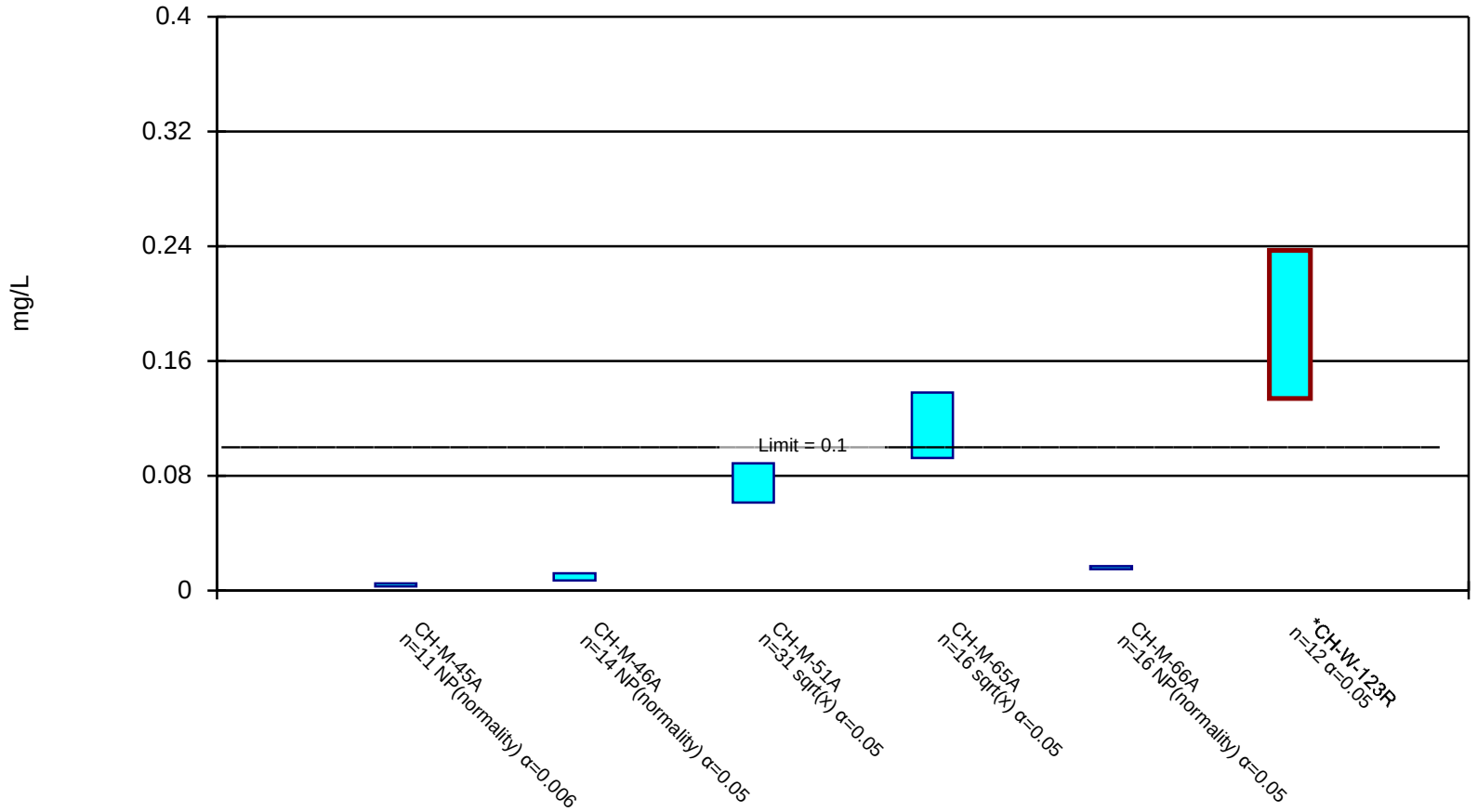


Constituent: Lithium Analysis Run 2/23/2026 2:44 PM

Cholla Power Plant Client: WSP Data: APS Stats Table FAP Remedy Selection

Parametric and Non-Parametric (NP) Confidence Interval

Compliance limit is exceeded.* Normality Test: Shapiro Wilk, alpha based on n.

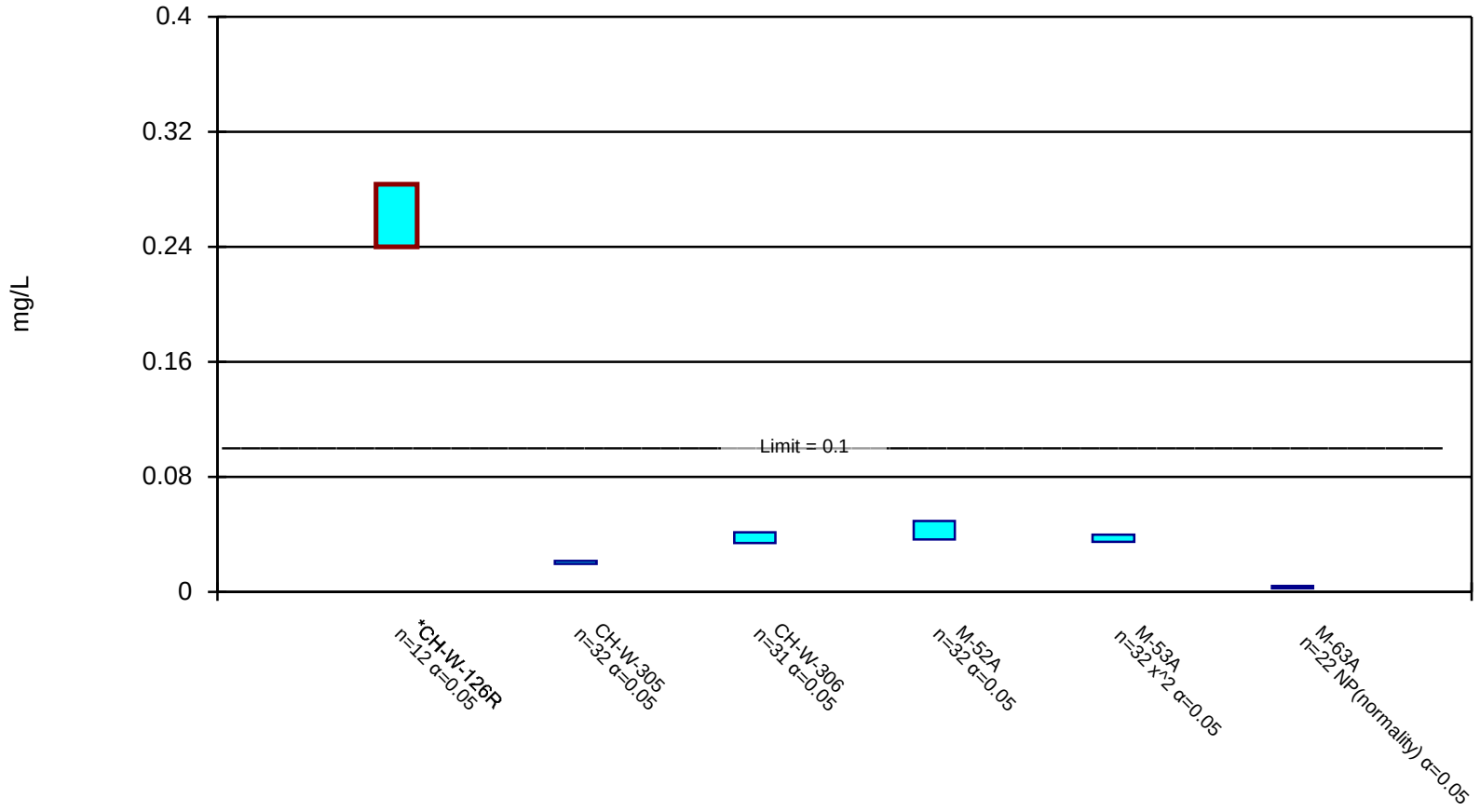


Constituent: Molybdenum Analysis Run 2/23/2026 2:44 PM

Cholla Power Plant Client: WSP Data: APS Stats Table FAP Remedy Selection

Parametric and Non-Parametric (NP) Confidence Interval

Compliance limit is exceeded.* Normality Test: Shapiro Wilk, alpha based on n.

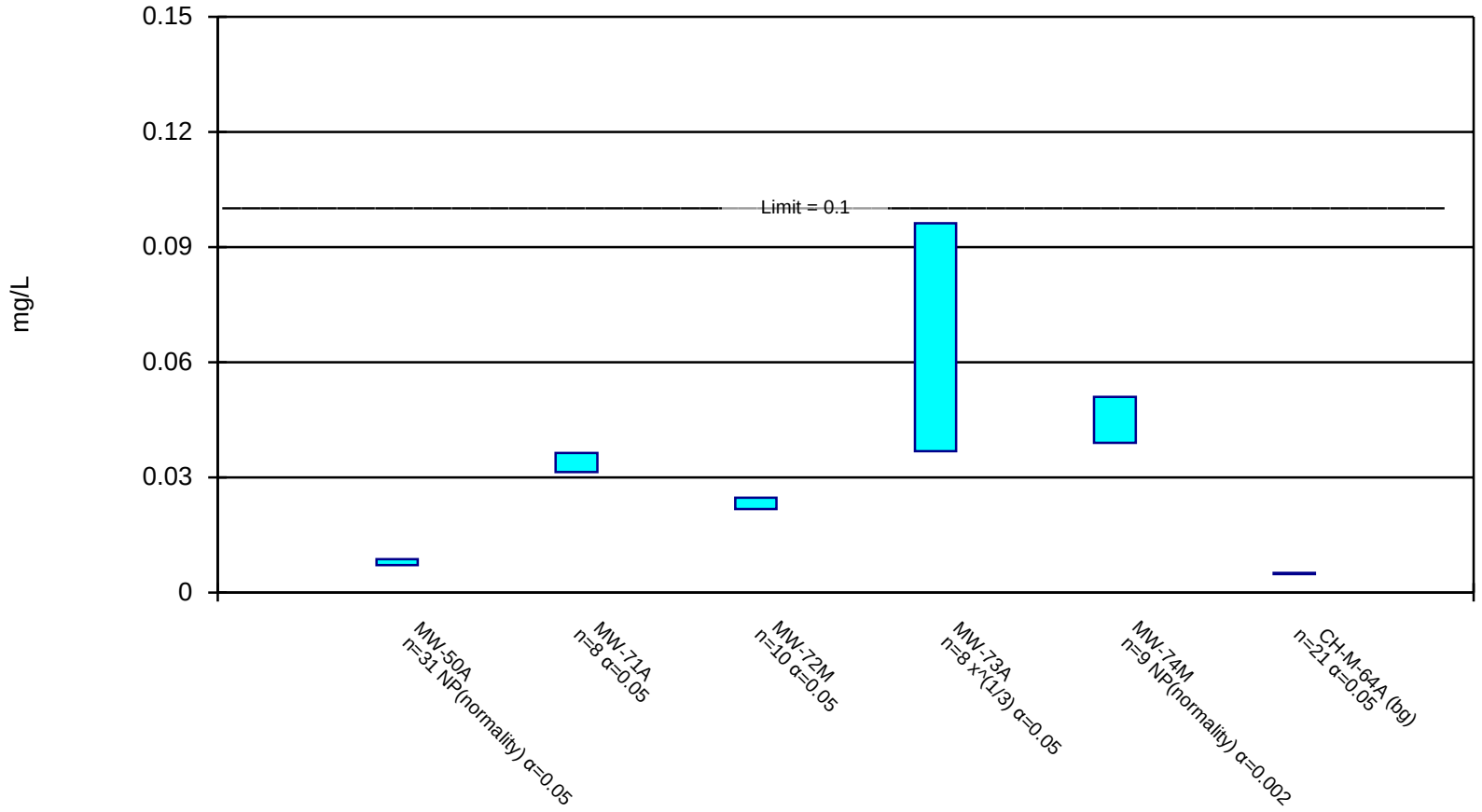


Constituent: Molybdenum Analysis Run 2/23/2026 2:44 PM

Cholla Power Plant Client: WSP Data: APS Stats Table FAP Remedy Selection

Parametric and Non-Parametric (NP) Confidence Interval

Compliance Limit is not exceeded. Normality Test: Shapiro Wilk, alpha based on n.

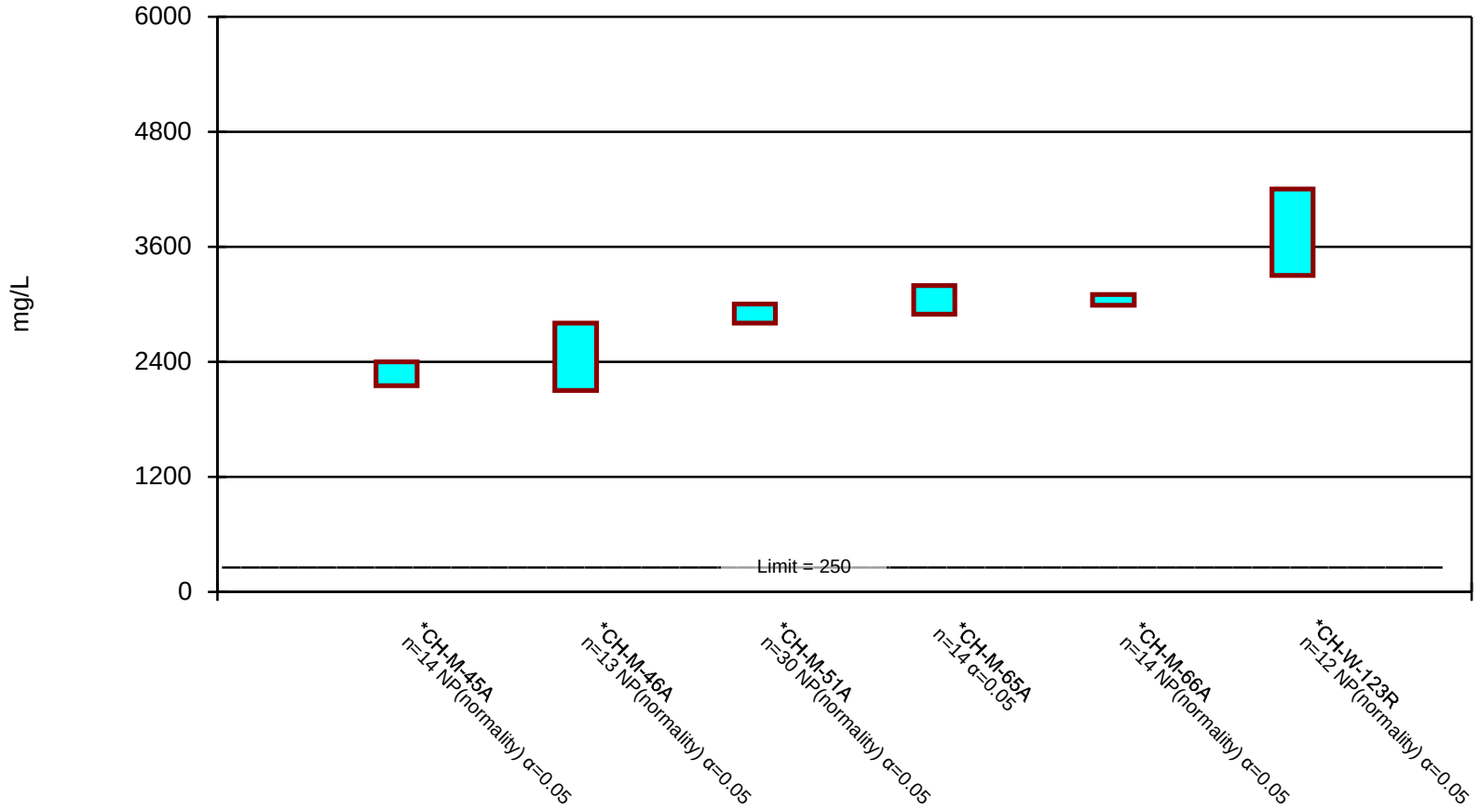


Constituent: Molybdenum Analysis Run 2/23/2026 2:44 PM

Cholla Power Plant Client: WSP Data: APS Stats Table FAP Remedy Selection

Parametric and Non-Parametric (NP) Confidence Interval

Compliance limit is exceeded.* Normality Test: Shapiro Wilk, alpha based on n.

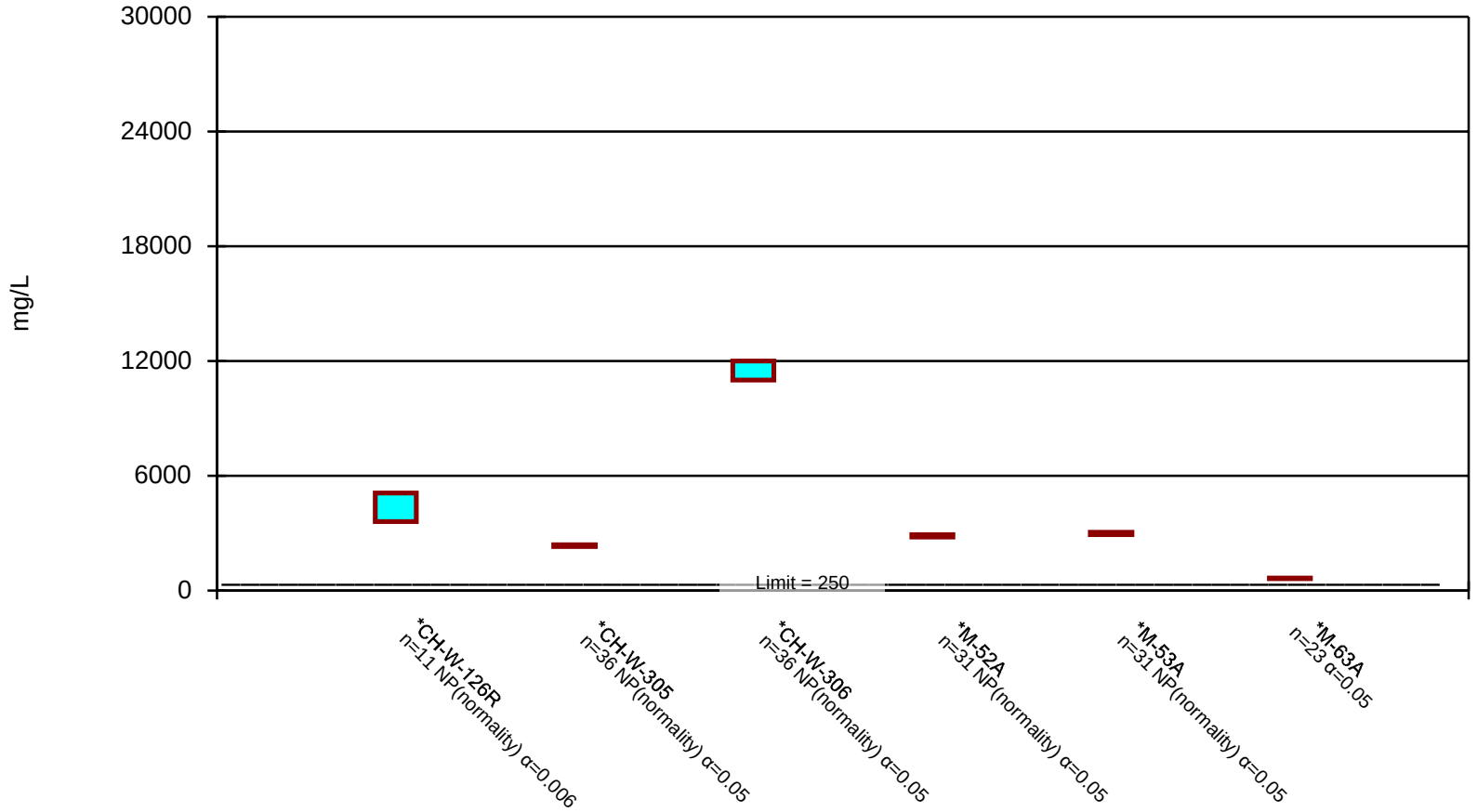


Constituent: Sulfate Analysis Run 2/23/2026 2:44 PM

Cholla Power Plant Client: WSP Data: APS Stats Table FAP Remedy Selection

Parametric and Non-Parametric (NP) Confidence Interval

Compliance limit is exceeded.* Normality Test: Shapiro Wilk, alpha based on n.

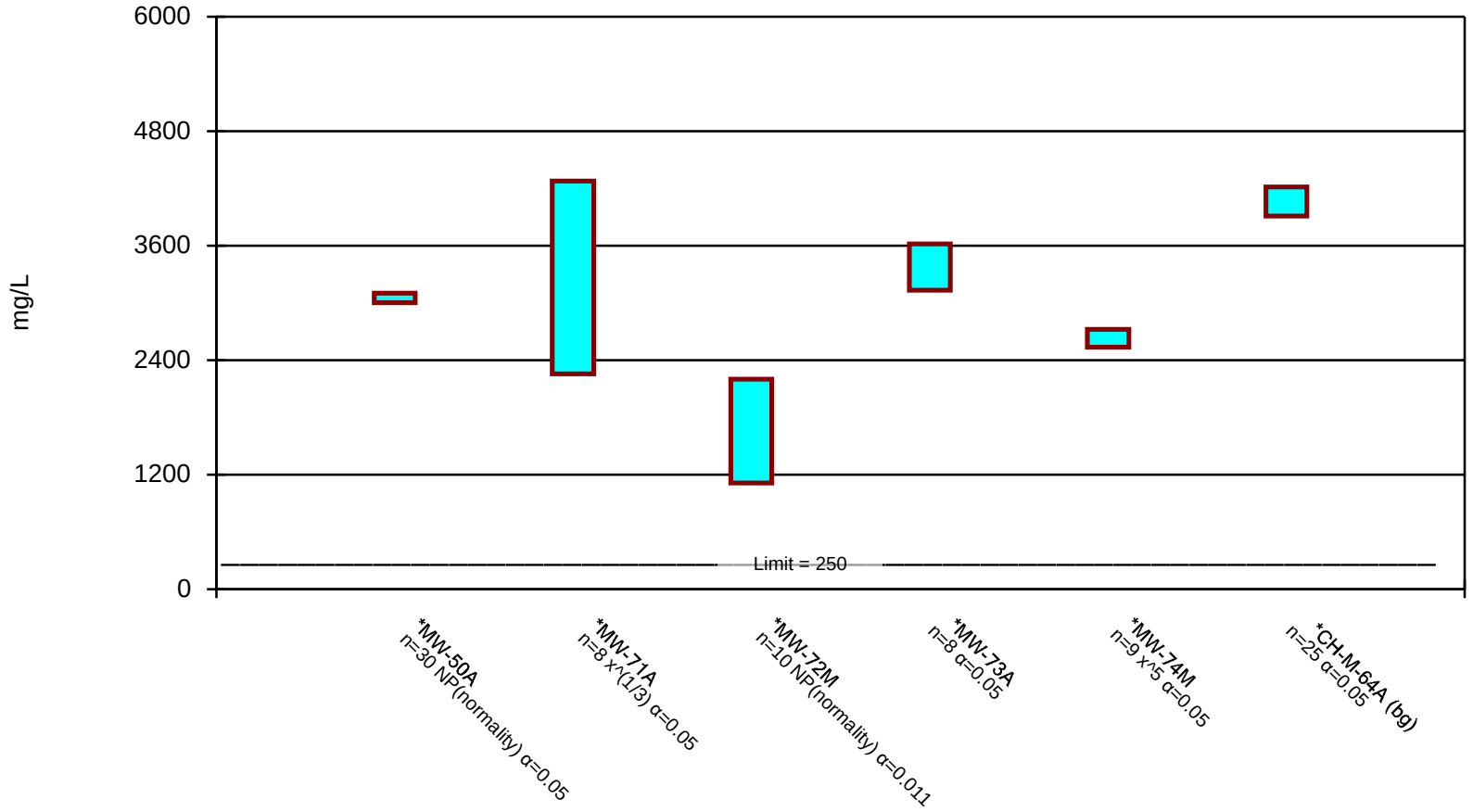


Constituent: Sulfate Analysis Run 2/23/2026 2:44 PM

Cholla Power Plant Client: WSP Data: APS Stats Table FAP Remedy Selection

Parametric and Non-Parametric (NP) Confidence Interval

Compliance limit is exceeded.* Normality Test: Shapiro Wilk, alpha based on n.



Constituent: Sulfate Analysis Run 2/23/2026 2:44 PM

Cholla Power Plant Client: WSP Data: APS Stats Table FAP Remedy Selection

Trend Test

Arkona Road LF Client: WSP Data: APS Stats Table BAP Remedy Selection Printed 2/26/2026, 9:36 AM

Constituent	Well	Slope	Calc.	Critical	Sig.	N	%NDs	Normality	Xform	Alpha	Method
Boron (mg/l)	**CH-M-64A ...**	**-0.03187**	**-148**	**-96**	**Yes**	**27**	**0**	**n/a**	**n/a**	**0.05**	**NP**
Boron (mg/l)	**CH-W-301**	**-0.0489**	**-85**	**-62**	**Yes**	**20**	**0**	**n/a**	**n/a**	**0.05**	**NP**
Boron (mg/l)	CH-W-302	-0.00...	-30	-62	No	20	0	n/a	n/a	0.05	NP
Boron (mg/l)	**CH-W-303**	**0.1648**	**94**	**49**	**Yes**	**17**	**0**	**n/a**	**n/a**	**0.05**	**NP**
Boron (mg/l)	**CH-W-305**	**0.01454**	**438**	**140**	**Yes**	**35**	**0**	**n/a**	**n/a**	**0.05**	**NP**
Boron (mg/l)	**CH-W-306**	**0.02662**	**225**	**140**	**Yes**	**35**	**0**	**n/a**	**n/a**	**0.05**	**NP**
Boron (mg/l)	**CH-W-314**	**0.05887**	**459**	**140**	**Yes**	**35**	**0**	**n/a**	**n/a**	**0.05**	**NP**
Boron (mg/l)	M-52A	0.01318	32	117	No	31	0	n/a	n/a	0.05	NP
Boron (mg/l)	**M-53A**	**0.1357**	**328**	**117**	**Yes**	**31**	**0**	**n/a**	**n/a**	**0.05**	**NP**
Boron (mg/l)	**M-55A**	**0.003515**	**113**	**96**	**Yes**	**27**	**0**	**n/a**	**n/a**	**0.05**	**NP**
Boron (mg/l)	MW-69A	0	-2	-27	No	11	0	n/a	n/a	0.05	NP
Boron (mg/l)	MW-70M	0.06697	20	27	No	11	0	n/a	n/a	0.05	NP
Boron (mg/l)	MW-71A	0.01633	3	17	No	8	0	n/a	n/a	0.05	NP
Boron (mg/l)	MW-73A	-0.4851	-14	-17	No	8	0	n/a	n/a	0.05	NP
Boron (mg/l)	**MW-74M**	**0.1556**	**22**	**20**	**Yes**	**9**	**0**	**n/a**	**n/a**	**0.05**	**NP**
Boron (mg/l)	MW-77A	0	-1	-27	No	11	0	n/a	n/a	0.05	NP
Boron (mg/l)	MW-78A	0	-4	-27	No	11	0	n/a	n/a	0.05	NP
Cobalt (mg/L)	CH-M-64A ...	0.000...	69	90	No	26	76.92	n/a	n/a	0.05	NP
Cobalt (mg/L)	**CH-W-301**	**0.000...**	**53**	**45**	**Yes**	**16**	**0**	**n/a**	**n/a**	**0.05**	**NP**
Cobalt (mg/L)	CH-W-302	0.000...	41	45	No	16	0	n/a	n/a	0.05	NP
Cobalt (mg/L)	**CH-W-303**	**-0.00...**	**-57**	**-30**	**Yes**	**12**	**0**	**n/a**	**n/a**	**0.05**	**NP**
Cobalt (mg/L)	CH-W-305	0	7	123	No	32	0	n/a	n/a	0.05	NP
Cobalt (mg/L)	CH-W-306	-0.00...	-107	-117	No	31	22.58	n/a	n/a	0.05	NP
Cobalt (mg/L)	**CH-W-314**	**0.003004**	**287**	**123**	**Yes**	**32**	**0**	**n/a**	**n/a**	**0.05**	**NP**
Cobalt (mg/L)	M-52A	-0.00...	-90	-123	No	32	0	n/a	n/a	0.05	NP
Cobalt (mg/L)	**M-53A**	**-0.00...**	**-402**	**-123**	**Yes**	**32**	**0**	**n/a**	**n/a**	**0.05**	**NP**
Cobalt (mg/L)	M-55A	0.000...	68	106	No	29	62.07	n/a	n/a	0.05	NP
Cobalt (mg/L)	**MW-69A**	**-0.00...**	**-45**	**-30**	**Yes**	**12**	**0**	**n/a**	**n/a**	**0.05**	**NP**
Cobalt (mg/L)	**MW-70M**	**-0.00...**	**-56**	**-30**	**Yes**	**12**	**0**	**n/a**	**n/a**	**0.05**	**NP**
Cobalt (mg/L)	**MW-71A**	**-0.00...**	**-33**	**-20**	**Yes**	**9**	**0**	**n/a**	**n/a**	**0.05**	**NP**
Cobalt (mg/L)	MW-73A	-0.00127	-10	-20	No	9	0	n/a	n/a	0.05	NP
Cobalt (mg/L)	**MW-74M**	**-0.00...**	**-42**	**-23**	**Yes**	**10**	**0**	**n/a**	**n/a**	**0.05**	**NP**
Cobalt (mg/L)	**MW-77A**	**0.000344**	**51**	**30**	**Yes**	**12**	**0**	**n/a**	**n/a**	**0.05**	**NP**
Cobalt (mg/L)	MW-78A	-0.00...	-5	-30	No	12	33.33	n/a	n/a	0.05	NP
Lithium (mg/L)	CH-M-64A ...	0.002974	80	90	No	26	0	n/a	n/a	0.05	NP
Lithium (mg/L)	CH-W-301	0.01073	20	45	No	16	0	n/a	n/a	0.05	NP
Lithium (mg/L)	CH-W-302	0.009505	45	45	No	16	6.25	n/a	n/a	0.05	NP
Lithium (mg/L)	CH-W-303	-0.00...	-5	-30	No	12	8.333	n/a	n/a	0.05	NP
Lithium (mg/L)	CH-W-305	0.001501	87	123	No	32	0	n/a	n/a	0.05	NP
Lithium (mg/L)	**CH-W-306**	**0.02681**	**227**	**117**	**Yes**	**31**	**0**	**n/a**	**n/a**	**0.05**	**NP**
Lithium (mg/L)	**CH-W-314**	**-0.00...**	**-194**	**-123**	**Yes**	**32**	**0**	**n/a**	**n/a**	**0.05**	**NP**
Lithium (mg/L)	M-52A	-0.00...	-92	-123	No	32	3.125	n/a	n/a	0.05	NP
Lithium (mg/L)	M-53A	9.6e-10	80	123	No	32	28.13	n/a	n/a	0.05	NP
Lithium (mg/L)	**M-55A**	**0.01594**	**276**	**106**	**Yes**	**29**	**3.448**	**n/a**	**n/a**	**0.05**	**NP**
Lithium (mg/L)	MW-69A	-0.00214	-6	-30	No	12	8.333	n/a	n/a	0.05	NP
Lithium (mg/L)	MW-70M	-0.00...	-16	-30	No	12	8.333	n/a	n/a	0.05	NP
Lithium (mg/L)	MW-71A	-0.00...	-6	-20	No	9	0	n/a	n/a	0.05	NP
Lithium (mg/L)	MW-73A	-0.02201	-17	-20	No	9	0	n/a	n/a	0.05	NP
Lithium (mg/L)	MW-74M	-0.00753	-14	-23	No	10	0	n/a	n/a	0.05	NP
Lithium (mg/L)	MW-77A	0	-1	-30	No	12	0	n/a	n/a	0.05	NP

Trend Test

Arkona Road LF Client: WSP Data: APS Stats Table BAP Remedy Selection Printed 2/26/2026, 9:36 AM

Constituent	Well	Slope	Calc.	Critical	Sig.	N	%NDs	Normality	Xform	Alpha	Method
Lithium (mg/L)	MW-78A	-0.00...	-14	-30	No	12	0	n/a	n/a	0.05	NP
Sulfate (mg/l)	**CH-M-64A ...**	**-110.7**	**-142**	**-96**	**Yes**	**27**	**0**	**n/a**	**n/a**	**0.05**	**NP**
Sulfate (mg/l)	**CH-W-301**	**83.08**	**124**	**62**	**Yes**	**20**	**0**	**n/a**	**n/a**	**0.05**	**NP**
Sulfate (mg/l)	**CH-W-302**	**-22.7**	**-87**	**-62**	**Yes**	**20**	**0**	**n/a**	**n/a**	**0.05**	**NP**
Sulfate (mg/l)	**CH-W-303**	**94.15**	**79**	**49**	**Yes**	**17**	**0**	**n/a**	**n/a**	**0.05**	**NP**
Sulfate (mg/l)	CH-W-305	6.554	118	145	No	36	0	n/a	n/a	0.05	NP
Sulfate (mg/l)	CH-W-306	12.3	106	145	No	36	0	n/a	n/a	0.05	NP
Sulfate (mg/l)	**CH-W-314**	**54.26**	**377**	**145**	**Yes**	**36**	**0**	**n/a**	**n/a**	**0.05**	**NP**
Sulfate (mg/l)	**M-52A**	**26.35**	**126**	**117**	**Yes**	**31**	**0**	**n/a**	**n/a**	**0.05**	**NP**
Sulfate (mg/l)	M-53A	0	32	117	No	31	0	n/a	n/a	0.05	NP
Sulfate (mg/l)	**M-55A**	**-37.71**	**-153**	**-96**	**Yes**	**27**	**0**	**n/a**	**n/a**	**0.05**	**NP**
Sulfate (mg/l)	MW-69A	-36.3	-21	-27	No	11	0	n/a	n/a	0.05	NP
Sulfate (mg/l)	MW-70M	0	-3	-27	No	11	0	n/a	n/a	0.05	NP
Sulfate (mg/l)	MW-71A	-238.3	-16	-17	No	8	0	n/a	n/a	0.05	NP
Sulfate (mg/l)	**MW-73A**	**-214.2**	**-23**	**-17**	**Yes**	**8**	**0**	**n/a**	**n/a**	**0.05**	**NP**
Sulfate (mg/l)	MW-74M	-61.28	-18	-20	No	9	0	n/a	n/a	0.05	NP
Sulfate (mg/l)	MW-77A	0	-1	-27	No	11	0	n/a	n/a	0.05	NP
Sulfate (mg/l)	MW-78A	-10.47	-12	-27	No	11	0	n/a	n/a	0.05	NP

Confidence Interval

APS - FAP Client: WSP Data: APS Stats Table FAP Remedy Selection Printed 2/23/2026, 2:45 PM

Constituent	Well	Upper Lim.	Lower Lim.	Compliance	Sig.	N	%NDs	Transform	Alpha	Method
Arsenic (mg/L)	CH-M-45A	0.0036	0.00066	0.013	No	16	50	No	0.05	NP (normality)
Arsenic (mg/L)	CH-M-46A	0.006187	0.003544	0.013	No	14	0	No	0.05	Param.
Arsenic (mg/L)	**CH-M-51A**	**0.02646**	**0.02207**	**0.013**	**Yes**	**31**	**3.226**	**No**	**0.05**	**Param.**
Arsenic (mg/L)	CH-M-65A	0.004381	0.002177	0.013	No	16	12.5	x^(1/3)	0.05	Param.
Arsenic (mg/L)	CH-M-66A	0.003107	0.002205	0.013	No	16	6.25	No	0.05	Param.
Arsenic (mg/L)	CH-W-123R	0.006275	0.004358	0.013	No	12	8.333	sqrt(x)	0.05	Param.
Arsenic (mg/L)	CH-W-126R	0.004333	0.002283	0.013	No	12	25	No	0.05	Param.
Arsenic (mg/L)	CH-W-305	0.0017	0.00088	0.013	No	32	21.88	No	0.05	NP (normality)
Arsenic (mg/L)	CH-W-306	0.0051	0.0047	0.013	No	31	3.226	No	0.05	NP (normality)
Arsenic (mg/L)	M-52A	0.002	0.0008	0.013	No	32	37.5	No	0.05	NP (Cohens/xfrm)
Arsenic (mg/L)	M-53A	0.00175	0.0012	0.013	No	32	18.75	No	0.05	NP (Cohens/xfrm)
Arsenic (mg/L)	M-63A	0.00235	0.00086	0.013	No	22	18.18	No	0.05	NP (Cohens/xfrm)
Arsenic (mg/L)	MW-50A	0.0032	0.0025	0.013	No	31	6.452	No	0.05	NP (normality)
Arsenic (mg/L)	MW-71A	0.0105	0.00089	0.013	No	8	37.5	No	0.004	NP (Cohens/xfrm)
Arsenic (mg/L)	MW-72M	0.0173	0.008905	0.013	No	10	20	No	0.05	Param.
Arsenic (mg/L)	MW-73A	0.01	0.00091	0.013	No	8	37.5	No	0.004	NP (Cohens/xfrm)
Arsenic (mg/L)	MW-74M	0.005	0.00053	0.013	No	9	33.33	No	0.002	NP (Cohens/xfrm)
Arsenic (mg/L)	CH-M-64A ...	0.0025	0.0012	0.013	No	26	15.38	No	0.05	NP (Cohens/xfrm)
Boron (mg/L)	CH-M-45A	1.083	1.005	1.3	No	15	0	No	0.05	Param.
Boron (mg/L)	CH-M-46A	0.6737	0.6229	1.3	No	13	0	No	0.05	Param.
Boron (mg/L)	**CH-M-51A**	**33.52**	**31.53**	**1.3**	**Yes**	**30**	**0**	**No**	**0.05**	**Param.**
Boron (mg/L)	**CH-M-65A**	**13**	**10**	**1.3**	**Yes**	**14**	**0**	**No**	**0.05**	**NP (normality)**
Boron (mg/L)	**CH-M-66A**	**1.949**	**1.626**	**1.3**	**Yes**	**14**	**0**	**No**	**0.05**	**Param.**
Boron (mg/L)	**CH-W-123R**	**45.49**	**38.56**	**1.3**	**Yes**	**12**	**0**	**No**	**0.05**	**Param.**
Boron (mg/L)	**CH-W-126R**	**48**	**43.8**	**1.3**	**Yes**	**11**	**0**	**No**	**0.05**	**Param.**
Boron (mg/L)	CH-W-305	0.3709	0.3384	1.3	No	35	0	No	0.05	Param.
Boron (mg/L)	CH-W-306	1.01	0.977	1.3	No	35	0	No	0.05	NP (normality)
Boron (mg/L)	**M-52A**	**3.698**	**3.434**	**1.3**	**Yes**	**31**	**0**	**No**	**0.05**	**Param.**
Boron (mg/L)	**M-53A**	**3.479**	**3.192**	**1.3**	**Yes**	**31**	**0**	**No**	**0.05**	**Param.**
Boron (mg/L)	M-63A	0.237	0.2095	1.3	No	22	0	No	0.05	Param.
Boron (mg/L)	**MW-50A**	**3**	**2.89**	**1.3**	**Yes**	**30**	**0**	**No**	**0.05**	**NP (normality)**
Boron (mg/L)	**MW-71A**	**3.725**	**3.492**	**1.3**	**Yes**	**8**	**0**	**No**	**0.05**	**Param.**
Boron (mg/L)	MW-72M	0.75	0.33	1.3	No	10	40	No	0.011	NP (normality)
Boron (mg/L)	**MW-73A**	**4.974**	**4.183**	**1.3**	**Yes**	**8**	**0**	**No**	**0.05**	**Param.**
Boron (mg/L)	**MW-74M**	**2.257**	**1.971**	**1.3**	**Yes**	**9**	**0**	**No**	**0.05**	**Param.**
Boron (mg/L)	CH-M-64A ...	1.201	1.11	1.3	No	27	0	No	0.05	Param.
Fluoride (mg/L)	CH-M-45A	0.9	0.64	4	No	16	25	No	0.05	NP (normality)
Fluoride (mg/L)	CH-M-46A	1.06	0.74	4	No	14	35.71	No	0.05	NP (Cohens/xfrm)
Fluoride (mg/L)	**CH-M-51A**	**5.405**	**5.07**	**4**	**Yes**	**32**	**0**	**x^3**	**0.05**	**Param.**
Fluoride (mg/L)	CH-M-65A	2.408	1.936	4	No	16	6.25	No	0.05	Param.
Fluoride (mg/L)	CH-M-66A	1.38	1.1	4	No	16	6.25	No	0.05	Param.
Fluoride (mg/L)	**CH-W-123R**	**5.785**	**4.86**	**4**	**Yes**	**12**	**0**	**No**	**0.05**	**Param.**
Fluoride (mg/L)	**CH-W-126R**	**5.318**	**4.494**	**4**	**Yes**	**12**	**0**	**x^3**	**0.05**	**Param.**
Fluoride (mg/L)	CH-W-305	0.8	0.75	4	No	39	64.1	No	0.05	NP (NDs)
Fluoride (mg/L)	CH-W-306	1.34	1.069	4	No	39	10.26	ln(x)	0.05	Param.
Fluoride (mg/L)	M-52A	1.225	1.022	4	No	34	8.824	ln(x)	0.05	Param.
Fluoride (mg/L)	M-53A	2.205	1.988	4	No	34	2.941	x^3	0.05	Param.
Fluoride (mg/L)	M-63A	0.4	0.27	4	No	24	70.83	No	0.05	NP (NDs)
Fluoride (mg/L)	MW-50A	2.259	2.109	4	No	32	3.125	No	0.05	Param.
Fluoride (mg/L)	MW-71A	3.252	2.74	4	No	8	0	No	0.05	Param.

Confidence Interval

APS - FAP Client: WSP Data: APS Stats Table FAP Remedy Selection Printed 2/23/2026, 2:45 PM

Constituent	Well	Upper Lim.	Lower Lim.	Compliance	Sig.	N	%NDs	Transform	Alpha	Method
Fluoride (mg/L)	MW-72M	40	0.4	4	No	10	70	No	0.011	NP (NDs)
Fluoride (mg/L)	MW-73A	4.047	3.405	4	No	8	0	No	0.05	Param.
Fluoride (mg/L)	MW-74M	1.43	0.9704	4	No	9	11.11	No	0.05	Param.
Fluoride (mg/L)	CH-M-64A ...	0.9	0.798	4	No	30	76.67	No	0.05	NP (NDs)
Lithium (mg/L)	CH-M-45A	0.219	0.1656	0.418	No	11	9.091	x^2	0.05	Param.
Lithium (mg/L)	CH-M-46A	0.2867	0.2475	0.418	No	14	0	sqrt(x)	0.05	Param.
Lithium (mg/L)	**CH-M-51A**	**0.5244**	**0.4843**	**0.418**	**Yes**	**31**	**0**	**No**	**0.05**	**Param.**
Lithium (mg/L)	**CH-M-65A**	**0.6292**	**0.5311**	**0.418**	**Yes**	**16**	**0**	**ln(x)**	**0.05**	**Param.**
Lithium (mg/L)	**CH-M-66A**	**0.5373**	**0.492**	**0.418**	**Yes**	**16**	**0**	**ln(x)**	**0.05**	**Param.**
Lithium (mg/L)	**CH-W-123R**	**0.5833**	**0.4956**	**0.418**	**Yes**	**12**	**0**	**No**	**0.05**	**Param.**
Lithium (mg/L)	**CH-W-126R**	**0.6669**	**0.5986**	**0.418**	**Yes**	**12**	**0**	**No**	**0.05**	**Param.**
Lithium (mg/L)	CH-W-305	0.22	0.21	0.418	No	32	0	No	0.05	NP (normality)
Lithium (mg/L)	**CH-W-306**	**0.7701**	**0.6836**	**0.418**	**Yes**	**31**	**0**	**sqrt(x)**	**0.05**	**Param.**
Lithium (mg/L)	M-52A	0.26	0.23	0.418	No	32	3.125	No	0.05	NP (normality)
Lithium (mg/L)	M-53A	0.21	0.2	0.418	No	32	28.13	No	0.05	NP (normality)
Lithium (mg/L)	M-63A	0.2	0.08455	0.418	No	22	54.55	No	0.05	NP (NDs)
Lithium (mg/L)	**MW-50A**	**0.4724**	**0.4448**	**0.418**	**Yes**	**31**	**0**	**No**	**0.05**	**Param.**
Lithium (mg/L)	MW-71A	0.2135	0.1807	0.418	No	9	0	No	0.05	Param.
Lithium (mg/L)	**MW-72M**	**4.417**	**3.167**	**0.418**	**Yes**	**11**	**0**	**No**	**0.05**	**Param.**
Lithium (mg/L)	MW-73A	0.2501	0.1919	0.418	No	9	0	No	0.05	Param.
Lithium (mg/L)	MW-74M	0.2512	0.2154	0.418	No	10	0	No	0.05	Param.
Lithium (mg/L)	CH-M-64A ...	0.28	0.26	0.418	No	26	0	No	0.05	NP (normality)
Molybdenum (mg/L)	CH-M-45A	0.005	0.0028	0.1	No	11	18.18	No	0.006	NP (normality)
Molybdenum (mg/L)	CH-M-46A	0.012	0.0068	0.1	No	14	14.29	No	0.05	NP (normality)
Molybdenum (mg/L)	CH-M-51A	0.08857	0.06112	0.1	No	31	0	sqrt(x)	0.05	Param.
Molybdenum (mg/L)	CH-M-65A	0.1378	0.09223	0.1	No	16	0	sqrt(x)	0.05	Param.
Molybdenum (mg/L)	CH-M-66A	0.017	0.015	0.1	No	16	12.5	No	0.05	NP (normality)
Molybdenum (mg/L)	**CH-W-123R**	**0.2371**	**0.1336**	**0.1**	**Yes**	**12**	**8.333**	**No**	**0.05**	**Param.**
Molybdenum (mg/L)	**CH-W-126R**	**0.2834**	**0.2399**	**0.1**	**Yes**	**12**	**0**	**No**	**0.05**	**Param.**
Molybdenum (mg/L)	CH-W-305	0.02153	0.01955	0.1	No	32	3.125	No	0.05	Param.
Molybdenum (mg/L)	CH-W-306	0.04131	0.03376	0.1	No	31	3.226	No	0.05	Param.
Molybdenum (mg/L)	M-52A	0.04938	0.03629	0.1	No	32	0	No	0.05	Param.
Molybdenum (mg/L)	M-53A	0.0397	0.03453	0.1	No	32	0	x^2	0.05	Param.
Molybdenum (mg/L)	M-63A	0.0039	0.0022	0.1	No	22	18.18	No	0.05	NP (normality)
Molybdenum (mg/L)	MW-50A	0.00865	0.0071	0.1	No	31	6.452	No	0.05	NP (normality)
Molybdenum (mg/L)	MW-71A	0.0364	0.03135	0.1	No	8	0	No	0.05	Param.
Molybdenum (mg/L)	MW-72M	0.02471	0.02167	0.1	No	10	10	No	0.05	Param.
Molybdenum (mg/L)	MW-73A	0.09612	0.03686	0.1	No	8	0	x^(1/3)	0.05	Param.
Molybdenum (mg/L)	MW-74M	0.051	0.039	0.1	No	9	0	No	0.002	NP (normality)
Molybdenum (mg/L)	CH-M-64A ...	0.005157	0.004743	0.1	No	21	0	No	0.05	Param.
Sulfate (mg/L)	**CH-M-45A**	**2400**	**2150**	**250**	**Yes**	**14**	**0**	**No**	**0.05**	**NP (normality)**
Sulfate (mg/L)	**CH-M-46A**	**2800**	**2100**	**250**	**Yes**	**13**	**0**	**No**	**0.05**	**NP (normality)**
Sulfate (mg/L)	**CH-M-51A**	**3000**	**2800**	**250**	**Yes**	**30**	**0**	**No**	**0.05**	**NP (normality)**
Sulfate (mg/L)	**CH-M-65A**	**3192**	**2892**	**250**	**Yes**	**14**	**0**	**No**	**0.05**	**Param.**
Sulfate (mg/L)	**CH-M-66A**	**3100**	**2990**	**250**	**Yes**	**14**	**0**	**No**	**0.05**	**NP (normality)**
Sulfate (mg/L)	**CH-W-123R**	**4200**	**3300**	**250**	**Yes**	**12**	**0**	**No**	**0.05**	**NP (normality)**
Sulfate (mg/L)	**CH-W-126R**	**5100**	**3600**	**250**	**Yes**	**11**	**0**	**No**	**0.006**	**NP (normality)**
Sulfate (mg/L)	**CH-W-305**	**2400**	**2300**	**250**	**Yes**	**36**	**0**	**No**	**0.05**	**NP (normality)**
Sulfate (mg/L)	**CH-W-306**	**12000**	**11000**	**250**	**Yes**	**36**	**0**	**No**	**0.05**	**NP (normality)**
Sulfate (mg/L)	**M-52A**	**2930**	**2790**	**250**	**Yes**	**31**	**0**	**No**	**0.05**	**NP (normality)**

Confidence Interval

APS - FAP Client: WSP Data: APS Stats Table FAP Remedy Selection Printed 2/23/2026, 2:45 PM

Constituent	Well	Upper Lim.	Lower Lim.	Compliance	Sig.	N	%NDs	Transform	Alpha	Method
Sulfate (mg/L)	**M-53A**	**3050**	**2900**	**250**	**Yes**	**31**	**0**	**No**	**0.05**	**NP (normality)**
Sulfate (mg/L)	**M-63A**	**651**	**606.5**	**250**	**Yes**	**23**	**0**	**No**	**0.05**	**Param.**
Sulfate (mg/L)	**MW-50A**	**3100**	**3000**	**250**	**Yes**	**30**	**0**	**No**	**0.05**	**NP (normality)**
Sulfate (mg/L)	**MW-71A**	**4276**	**2255**	**250**	**Yes**	**8**	**0**	**x^(1/3)**	**0.05**	**Param.**
Sulfate (mg/L)	**MW-72M**	**2200**	**1110**	**250**	**Yes**	**10**	**0**	**No**	**0.011**	**NP (normality)**
Sulfate (mg/L)	**MW-73A**	**3614**	**3133**	**250**	**Yes**	**8**	**0**	**No**	**0.05**	**Param.**
Sulfate (mg/L)	**MW-74M**	**2719**	**2532**	**250**	**Yes**	**9**	**0**	**x^5**	**0.05**	**Param.**
Sulfate (mg/L)	**CH-M-64A ...**	**4216**	**3911**	**250**	**Yes**	**25**	**0**	**No**	**0.05**	**Param.**

Trend Test

APS - FAP Client: APS Data: APS Stats Table FAP Remedy Selection Printed 2/26/2026, 9:09 AM

Constituent	Well	Slope	Calc.	Critical	Sig.	N	%NDs	Normality	Xform	Alpha	Method
Arsenic (mg/L)	**CH-M-45A**	**0.000...**	**46**	**45**	**Yes**	**16**	**50**	**n/a**	**n/a**	**0.05**	**NP**
Arsenic (mg/L)	**CH-M-46A**	**0.000...**	**51**	**37**	**Yes**	**14**	**0**	**n/a**	**n/a**	**0.05**	**NP**
Arsenic (mg/L)	CH-M-51A	0.000...	65	117	No	31	3.226	n/a	n/a	0.05	NP
Arsenic (mg/L)	CH-M-65A	0.000...	24	45	No	16	12.5	n/a	n/a	0.05	NP
Arsenic (mg/L)	CH-M-66A	0.000...	18	45	No	16	6.25	n/a	n/a	0.05	NP
Arsenic (mg/L)	CH-W-123R	0.000178	13	30	No	12	8.333	n/a	n/a	0.05	NP
Arsenic (mg/L)	CH-W-126R	0.000...	7	30	No	12	25	n/a	n/a	0.05	NP
Arsenic (mg/L)	**CH-W-305**	**0.000...**	**214**	**123**	**Yes**	**32**	**21.88**	**n/a**	**n/a**	**0.05**	**NP**
Arsenic (mg/L)	**CH-W-306**	**0.000...**	**163**	**117**	**Yes**	**31**	**3.226**	**n/a**	**n/a**	**0.05**	**NP**
Arsenic (mg/L)	**M-52A**	**0.000...**	**187**	**123**	**Yes**	**32**	**37.5**	**n/a**	**n/a**	**0.05**	**NP**
Arsenic (mg/L)	M-53A	0.000...	101	123	No	32	18.75	n/a	n/a	0.05	NP
Arsenic (mg/L)	**M-63A**	**0.000...**	**108**	**71**	**Yes**	**22**	**18.18**	**n/a**	**n/a**	**0.05**	**NP**
Arsenic (mg/L)	**MW-50A**	**0.000...**	**183**	**117**	**Yes**	**31**	**6.452**	**n/a**	**n/a**	**0.05**	**NP**
Arsenic (mg/L)	MW-71A	0.000...	4	17	No	8	37.5	n/a	n/a	0.05	NP
Arsenic (mg/L)	MW-72M	-0.00...	-3	-23	No	10	20	n/a	n/a	0.05	NP
Arsenic (mg/L)	MW-73A	-0.00...	-3	-17	No	8	37.5	n/a	n/a	0.05	NP
Arsenic (mg/L)	MW-74M	0.000...	9	20	No	9	33.33	n/a	n/a	0.05	NP
Arsenic (mg/L)	CH-M-64A ...	0.000...	39	90	No	26	15.38	n/a	n/a	0.05	NP
Boron (mg/L)	CH-M-45A	0	-1	-41	No	15	0	n/a	n/a	0.05	NP
Boron (mg/L)	CH-M-46A	0.01093	25	34	No	13	0	n/a	n/a	0.05	NP
Boron (mg/L)	**CH-M-51A**	**-0.7856**	**-223**	**-112**	**Yes**	**30**	**0**	**n/a**	**n/a**	**0.05**	**NP**
Boron (mg/L)	CH-M-65A	-0.33	-34	-37	No	14	0	n/a	n/a	0.05	NP
Boron (mg/L)	**CH-M-66A**	**0.1098**	**56**	**37**	**Yes**	**14**	**0**	**n/a**	**n/a**	**0.05**	**NP**
Boron (mg/L)	**CH-W-123R**	**3.926**	**57**	**30**	**Yes**	**12**	**0**	**n/a**	**n/a**	**0.05**	**NP**
Boron (mg/L)	**CH-W-126R**	**2.438**	**31**	**27**	**Yes**	**11**	**0**	**n/a**	**n/a**	**0.05**	**NP**
Boron (mg/L)	**CH-W-305**	**0.01454**	**438**	**140**	**Yes**	**35**	**0**	**n/a**	**n/a**	**0.05**	**NP**
Boron (mg/L)	**CH-W-306**	**0.02662**	**225**	**140**	**Yes**	**35**	**0**	**n/a**	**n/a**	**0.05**	**NP**
Boron (mg/L)	M-52A	0.01318	32	117	No	31	0	n/a	n/a	0.05	NP
Boron (mg/L)	**M-53A**	**0.1357**	**328**	**117**	**Yes**	**31**	**0**	**n/a**	**n/a**	**0.05**	**NP**
Boron (mg/L)	M-63A	0.000...	14	71	No	22	0	n/a	n/a	0.05	NP
Boron (mg/L)	MW-50A	0.02356	104	112	No	30	0	n/a	n/a	0.05	NP
Boron (mg/L)	MW-71A	0.01633	3	17	No	8	0	n/a	n/a	0.05	NP
Boron (mg/L)	MW-72M	0.07892	16	23	No	10	40	n/a	n/a	0.05	NP
Boron (mg/L)	MW-73A	-0.4851	-14	-17	No	8	0	n/a	n/a	0.05	NP
Boron (mg/L)	**MW-74M**	**0.1556**	**22**	**20**	**Yes**	**9**	**0**	**n/a**	**n/a**	**0.05**	**NP**
Boron (mg/L)	**CH-M-64A ...**	**-0.03187**	**-148**	**-96**	**Yes**	**27**	**0**	**n/a**	**n/a**	**0.05**	**NP**
Fluoride (mg/L)	CH-M-45A	-0.01633	-30	-45	No	16	25	n/a	n/a	0.05	NP
Fluoride (mg/L)	CH-M-46A	0.04018	16	37	No	14	35.71	n/a	n/a	0.05	NP
Fluoride (mg/L)	CH-M-51A	0.009529	22	123	No	32	0	n/a	n/a	0.05	NP
Fluoride (mg/L)	CH-M-65A	0	0	45	No	16	6.25	n/a	n/a	0.05	NP
Fluoride (mg/L)	CH-M-66A	0	3	45	No	16	6.25	n/a	n/a	0.05	NP
Fluoride (mg/L)	CH-W-123R	0.1742	13	30	No	12	0	n/a	n/a	0.05	NP
Fluoride (mg/L)	CH-W-126R	-0.00...	-4	-30	No	12	0	n/a	n/a	0.05	NP
Fluoride (mg/L)	CH-W-305	0	-112	-164	No	39	64.1	n/a	n/a	0.05	NP
Fluoride (mg/L)	CH-W-306	0.01464	52	164	No	39	10.26	n/a	n/a	0.05	NP
Fluoride (mg/L)	**M-52A**	**0.0774**	**239**	**134**	**Yes**	**34**	**8.824**	**n/a**	**n/a**	**0.05**	**NP**
Fluoride (mg/L)	M-53A	0.05041	129	134	No	34	2.941	n/a	n/a	0.05	NP
Fluoride (mg/L)	M-63A	0	-74	-81	No	24	70.83	n/a	n/a	0.05	NP
Fluoride (mg/L)	MW-50A	0	17	123	No	32	3.125	n/a	n/a	0.05	NP
Fluoride (mg/L)	MW-71A	-0.1035	-3	-17	No	8	0	n/a	n/a	0.05	NP

Trend Test

APS - FAP Client: APS Data: APS Stats Table FAP Remedy Selection Printed 2/26/2026, 9:09 AM

Constituent	Well	Slope	Calc.	Critical	Sig.	N	%NDs	Normality	Xform	Alpha	Method
Fluoride (mg/L)	MW-72M	0.3995	9	23	No	10	70	n/a	n/a	0.05	NP
Fluoride (mg/L)	MW-73A	-0.08941	-3	-17	No	8	0	n/a	n/a	0.05	NP
Fluoride (mg/L)	MW-74M	0.1175	11	20	No	9	11.11	n/a	n/a	0.05	NP
Fluoride (mg/L)	CH-M-64A ...	0	-92	-112	No	30	76.67	n/a	n/a	0.05	NP
Lithium (mg/L)	CH-M-45A	0.009986	16	27	No	11	9.091	n/a	n/a	0.05	NP
Lithium (mg/L)	CH-M-46A	0.005244	23	37	No	14	0	n/a	n/a	0.05	NP
Lithium (mg/L)	**CH-M-51A**	**-0.01923**	**-303**	**-117**	**Yes**	**31**	**0**	**n/a**	**n/a**	**0.05**	**NP**
Lithium (mg/L)	CH-M-65A	-0.00...	-12	-45	No	16	0	n/a	n/a	0.05	NP
Lithium (mg/L)	CH-M-66A	-0.00...	-18	-45	No	16	0	n/a	n/a	0.05	NP
Lithium (mg/L)	CH-W-123R	0.03209	27	30	No	12	0	n/a	n/a	0.05	NP
Lithium (mg/L)	CH-W-126R	0	1	30	No	12	0	n/a	n/a	0.05	NP
Lithium (mg/L)	CH-W-305	0.001501	87	123	No	32	0	n/a	n/a	0.05	NP
Lithium (mg/L)	**CH-W-306**	**0.02681**	**227**	**117**	**Yes**	**31**	**0**	**n/a**	**n/a**	**0.05**	**NP**
Lithium (mg/L)	M-52A	-0.00...	-92	-123	No	32	3.125	n/a	n/a	0.05	NP
Lithium (mg/L)	M-53A	9.6e-10	80	123	No	32	28.13	n/a	n/a	0.05	NP
Lithium (mg/L)	**M-63A**	**-0.01233**	**-103**	**-71**	**Yes**	**22**	**54.55**	**n/a**	**n/a**	**0.05**	**NP**
Lithium (mg/L)	**MW-50A**	**-0.00...**	**-165**	**-117**	**Yes**	**31**	**0**	**n/a**	**n/a**	**0.05**	**NP**
Lithium (mg/L)	MW-71A	-0.00...	-6	-20	No	9	0	n/a	n/a	0.05	NP
Lithium (mg/L)	MW-72M	-0.4558	-20	-27	No	11	0	n/a	n/a	0.05	NP
Lithium (mg/L)	MW-73A	-0.02201	-17	-20	No	9	0	n/a	n/a	0.05	NP
Lithium (mg/L)	MW-74M	-0.00753	-14	-23	No	10	0	n/a	n/a	0.05	NP
Lithium (mg/L)	CH-M-64A ...	0.002974	80	90	No	26	0	n/a	n/a	0.05	NP
Molybdenum (mg/L)	CH-M-45A	0.000...	6	27	No	11	18.18	n/a	n/a	0.05	NP
Molybdenum (mg/L)	CH-M-46A	0.000...	18	37	No	14	14.29	n/a	n/a	0.05	NP
Molybdenum (mg/L)	**CH-M-51A**	**0.01469**	**319**	**117**	**Yes**	**31**	**0**	**n/a**	**n/a**	**0.05**	**NP**
Molybdenum (mg/L)	**CH-M-65A**	**0.01038**	**57**	**45**	**Yes**	**16**	**0**	**n/a**	**n/a**	**0.05**	**NP**
Molybdenum (mg/L)	CH-M-66A	0.000...	9	45	No	16	12.5	n/a	n/a	0.05	NP
Molybdenum (mg/L)	**CH-W-123R**	**-0.05279**	**-46**	**-30**	**Yes**	**12**	**8.333**	**n/a**	**n/a**	**0.05**	**NP**
Molybdenum (mg/L)	CH-W-126R	-0.01841	-27	-30	No	12	0	n/a	n/a	0.05	NP
Molybdenum (mg/L)	CH-W-305	0.000...	110	123	No	32	3.125	n/a	n/a	0.05	NP
Molybdenum (mg/L)	**CH-W-306**	**0.002805**	**198**	**117**	**Yes**	**31**	**3.226**	**n/a**	**n/a**	**0.05**	**NP**
Molybdenum (mg/L)	**M-52A**	**0.003333**	**151**	**123**	**Yes**	**32**	**0**	**n/a**	**n/a**	**0.05**	**NP**
Molybdenum (mg/L)	**M-53A**	**-0.0018**	**-196**	**-123**	**Yes**	**32**	**0**	**n/a**	**n/a**	**0.05**	**NP**
Molybdenum (mg/L)	M-63A	0.000...	49	71	No	22	18.18	n/a	n/a	0.05	NP
Molybdenum (mg/L)	**MW-50A**	**0.000...**	**180**	**117**	**Yes**	**31**	**6.452**	**n/a**	**n/a**	**0.05**	**NP**
Molybdenum (mg/L)	MW-71A	-0.00...	-13	-17	No	8	0	n/a	n/a	0.05	NP
Molybdenum (mg/L)	MW-72M	0.000...	4	23	No	10	10	n/a	n/a	0.05	NP
Molybdenum (mg/L)	**MW-73A**	**0.02321**	**19**	**17**	**Yes**	**8**	**0**	**n/a**	**n/a**	**0.05**	**NP**
Molybdenum (mg/L)	MW-74M	-0.00...	-12	-20	No	9	0	n/a	n/a	0.05	NP
Molybdenum (mg/L)	**CH-M-64A ...**	**-0.00...**	**-75**	**-66**	**Yes**	**21**	**0**	**n/a**	**n/a**	**0.05**	**NP**
Sulfate (mg/L)	CH-M-45A	0	-1	-37	No	14	0	n/a	n/a	0.05	NP
Sulfate (mg/L)	**CH-M-46A**	**162.4**	**48**	**34**	**Yes**	**13**	**0**	**n/a**	**n/a**	**0.05**	**NP**
Sulfate (mg/L)	CH-M-51A	0	-42	-112	No	30	0	n/a	n/a	0.05	NP
Sulfate (mg/L)	CH-M-65A	-19.84	-7	-37	No	14	0	n/a	n/a	0.05	NP
Sulfate (mg/L)	CH-M-66A	0	-6	-37	No	14	0	n/a	n/a	0.05	NP
Sulfate (mg/L)	CH-W-123R	21.52	1	30	No	12	0	n/a	n/a	0.05	NP
Sulfate (mg/L)	CH-W-126R	-99.18	-19	-27	No	11	0	n/a	n/a	0.05	NP
Sulfate (mg/L)	CH-W-305	6.554	118	145	No	36	0	n/a	n/a	0.05	NP
Sulfate (mg/L)	CH-W-306	12.3	106	145	No	36	0	n/a	n/a	0.05	NP
Sulfate (mg/L)	**M-52A**	**26.35**	**126**	**117**	**Yes**	**31**	**0**	**n/a**	**n/a**	**0.05**	**NP**

Trend Test

APS - FAP Client: APS Data: APS Stats Table FAP Remedy Selection Printed 2/26/2026, 9:09 AM

Constituent	Well	Slope	Calc.	Critical	Sig.	N	%NDs	Normality	Xform	Alpha	Method
Sulfate (mg/L)	M-53A	0	32	117	No	31	0	n/a	n/a	0.05	NP
Sulfate (mg/L)	M-63A	0.7041	6	76	No	23	0	n/a	n/a	0.05	NP
Sulfate (mg/L)	MW-50A	0	16	112	No	30	0	n/a	n/a	0.05	NP
Sulfate (mg/L)	MW-71A	-238.3	-16	-17	No	8	0	n/a	n/a	0.05	NP
Sulfate (mg/L)	MW-72M	-203.3	-22	-23	No	10	0	n/a	n/a	0.05	NP
Sulfate (mg/L)	**MW-73A**	**-214.2**	**-23**	**-17**	**Yes**	**8**	**0**	**n/a**	**n/a**	**0.05**	**NP**
Sulfate (mg/L)	MW-74M	-61.28	-18	-20	No	9	0	n/a	n/a	0.05	NP
Sulfate (mg/L)	**CH-M-64A ...**	**-116.3**	**-155**	**-85**	**Yes**	**25**	**0**	**n/a**	**n/a**	**0.05**	**NP**

Trend Test

Arkona Road LF Client: IN Dept. of Env. Mgmt. Data: APS Trend Plots - Evap Wells Printed 5/5/2026, 2:30 PM

Constituent	Well	Slope	Calc.	Critical	Sig.	N	%NDs	Normality	Xform	Alpha	Method
Arsenic (mg/l)	MW-83A	0.001074	8	17	No	8	0	n/a	n/a	0.05	NP
Arsenic (mg/l)	MW-84A	0.000...	4	17	No	8	0	n/a	n/a	0.05	NP
Arsenic (mg/l)	**MW-85C**	**0.06623**	**22**	**17**	**Yes**	**8**	**12.5**	**n/a**	**n/a**	**0.05**	**NP**
Fluoride (mg/l)	MW-83A	0	11	17	No	8	87.5	n/a	n/a	0.05	NP
Fluoride (mg/l)	MW-84A	-0.06913	-1	-17	No	8	25	n/a	n/a	0.05	NP
Fluoride (mg/l)	MW-85C	0.6375	12	17	No	8	12.5	n/a	n/a	0.05	NP
Lithium (mg/L)	**MW-83A**	**0.06586**	**18**	**17**	**Yes**	**8**	**0**	**n/a**	**n/a**	**0.05**	**NP**
Lithium (mg/L)	MW-84A	0.11	16	17	No	8	0	n/a	n/a	0.05	NP
Lithium (mg/L)	MW-85C	-0.00...	-6	-17	No	8	0	n/a	n/a	0.05	NP
Molybdenum (mg/L)	MW-83A	0	-3	-17	No	8	75	n/a	n/a	0.05	NP
Molybdenum (mg/L)	MW-84A	-0.00...	-5	-17	No	8	25	n/a	n/a	0.05	NP
Molybdenum (mg/L)	MW-85C	0	-3	-17	No	8	87.5	n/a	n/a	0.05	NP

Trend Test

APS - FAP Client: APS Data: APS Stats Table FAP Remedy Selection - MW-125 Printed 5/26/2026, 4:37 PM

Constituent	Well	Slope	Calc.	Critical	Sig.	N	%NDs	Normality	Xform	Alpha	Method
Arsenic (mg/l)	CH-W-125 ...	-0.00...	-30	-76	No	23	8.696	n/a	n/a	0.05	NP
Cobalt (mg/L)	CH-W-125 ...	-0.00...	-7	-71	No	22	40.91	n/a	n/a	0.05	NP
Fluoride (mg/l)	CH-W-125 ...	0	-5	-112	No	30	20	n/a	n/a	0.05	NP
Lithium (mg/L)	**CH-W-125 ...**	**-0.01854**	**-127**	**-76**	**Yes**	**23**	**56.52**	**n/a**	**n/a**	**0.05**	**NP**
Molybdenum (mg/L)	CH-W-125 ...	0.000...	29	76	No	23	21.74	n/a	n/a	0.05	NP

B

Groundwater Plume Analytics®

Analyses

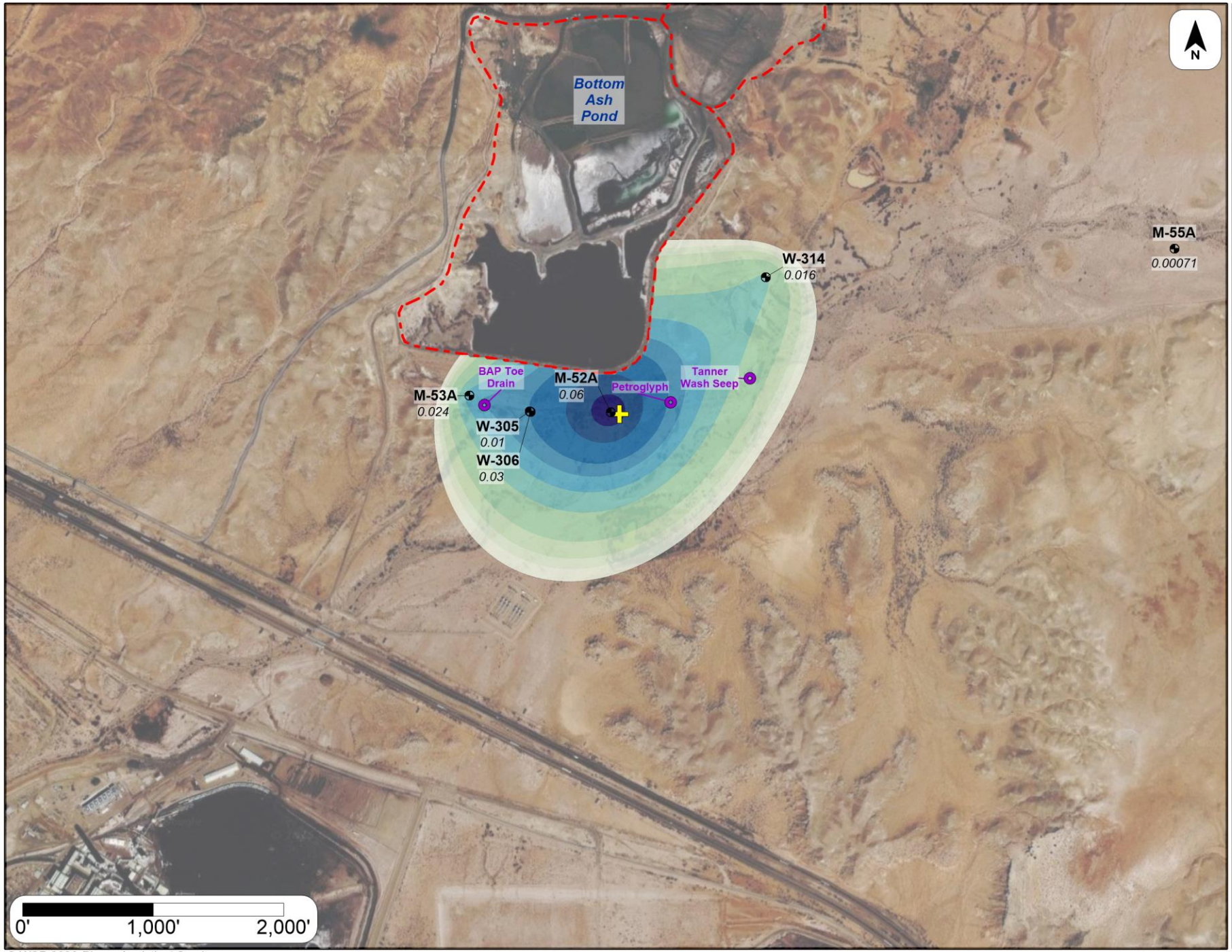
GROUNDWATER PLUME ANALYTICS®

Arizona Public Service Company (APS)
Cholla Power Plant BAP

Navajo County, Arizona

March 12, 2026

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Cobalt

Oct-2015

Concentration (mg/L)

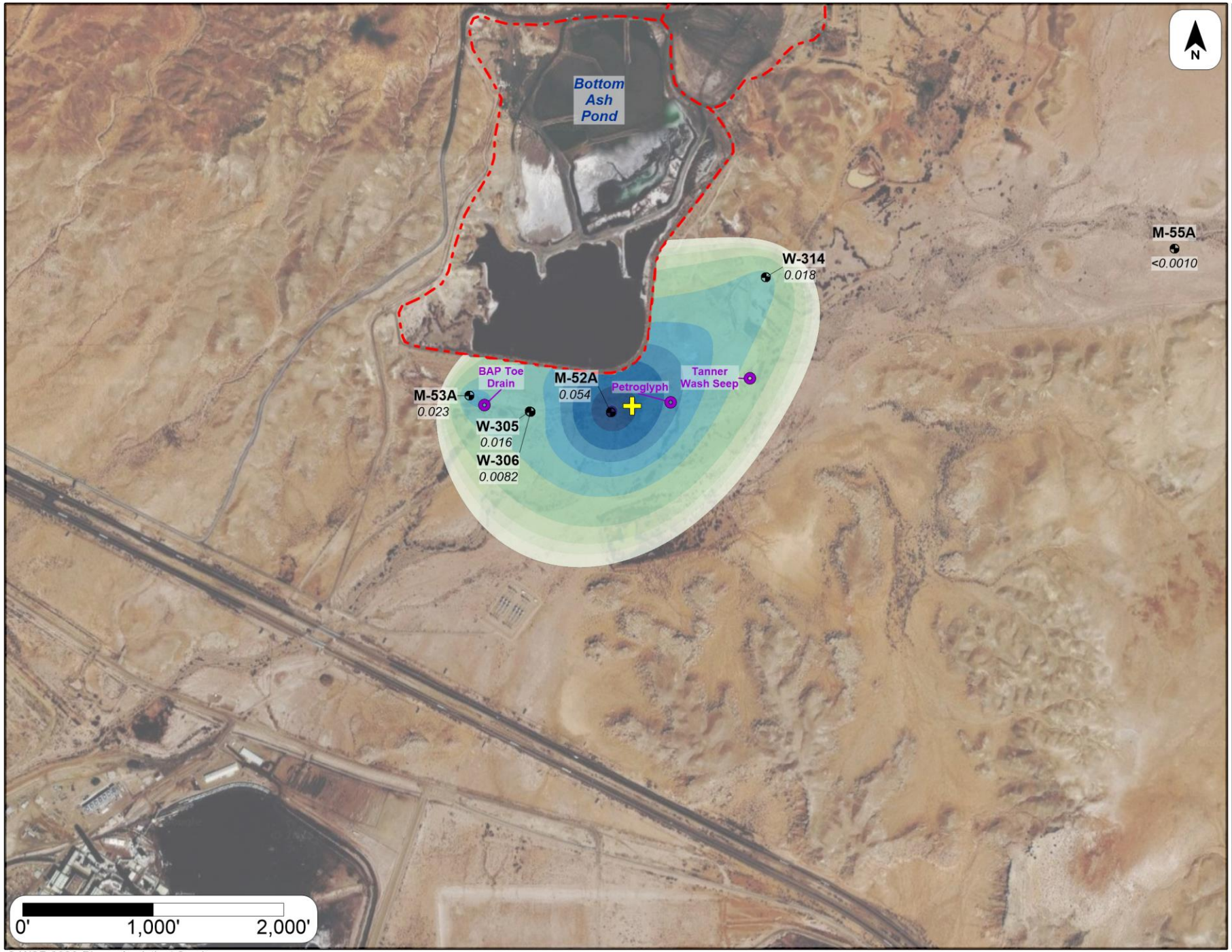
0.006 – GWPS | 0.007 | 0.008 | 0.01 | 0.015 | 0.02 | 0.025 | 0.03 | 0.04 | 0.05

Plume Characteristics

Plume Area: **107 acres**
Plume Average Concentration: **0.018 mg/L**
Plume Mass Indicator: **111 lbs**

Monitoring Well	Plume Center of Mass
Extraction Well	Seepage Collection Sump
Hanging Well	
112 — Concentration (mg/L)	
NS (146) — Well Not Sampled (Assigned Value Shown)	
GWPS — Groundwater Protection Standard	

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Cobalt

Apr-2016

Concentration (mg/L)

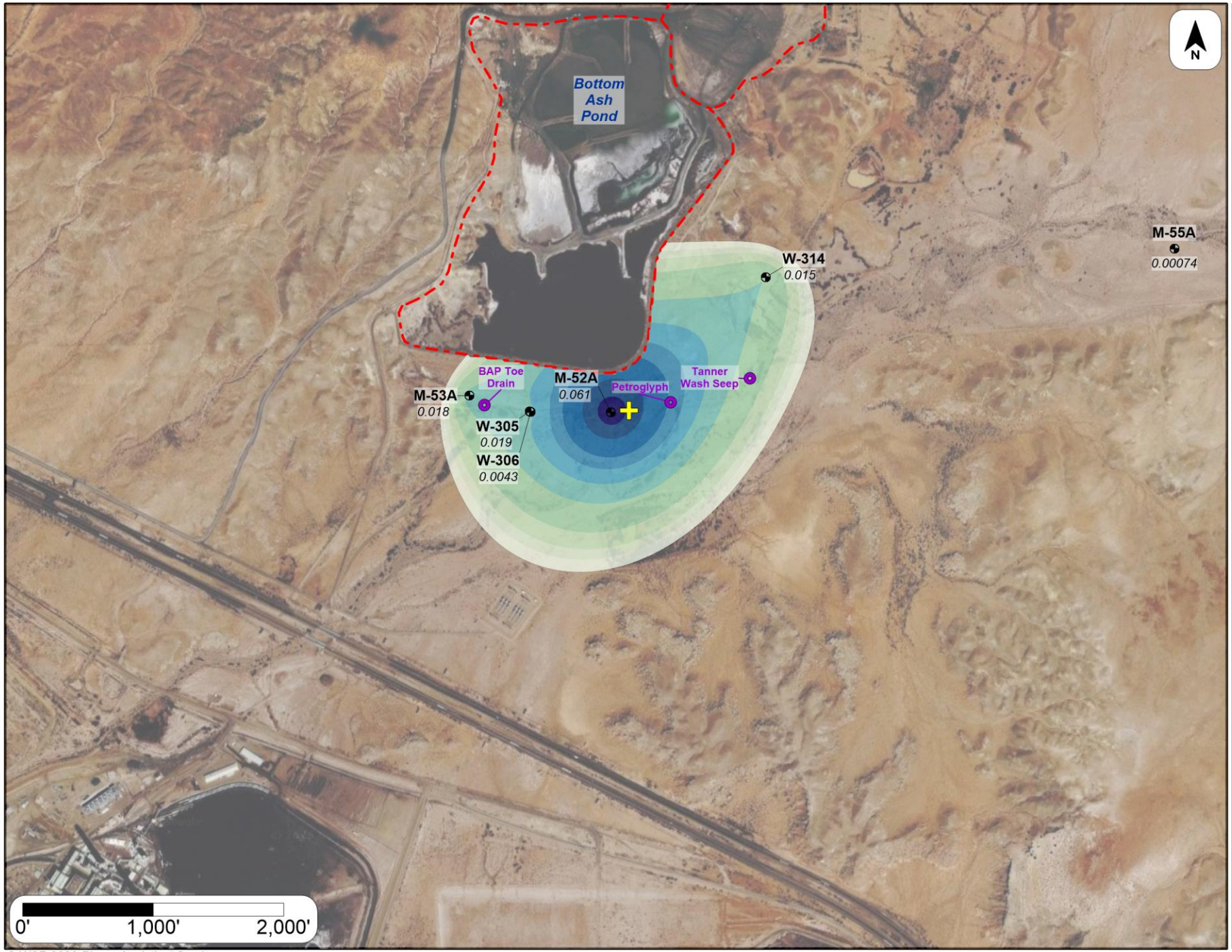
0.006 – GWPS | 0.007 | 0.008 | 0.01 | 0.015 | 0.02 | 0.025 | 0.03 | 0.04 | 0.05

Plume Characteristics

Plume Area: **102 acres**
Plume Average Concentration: **0.016 mg/L**
Plume Mass Indicator: **94.9 lbs**

Monitoring Well	Plume Center of Mass
Extraction Well	Seepage Collection Sump
Hanging Well	
112 — Concentration (mg/L)	
NS (146) — Well Not Sampled (Assigned Value Shown)	
GWPS — Groundwater Protection Standard	

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Cobalt

Oct-2016

Concentration (mg/L)

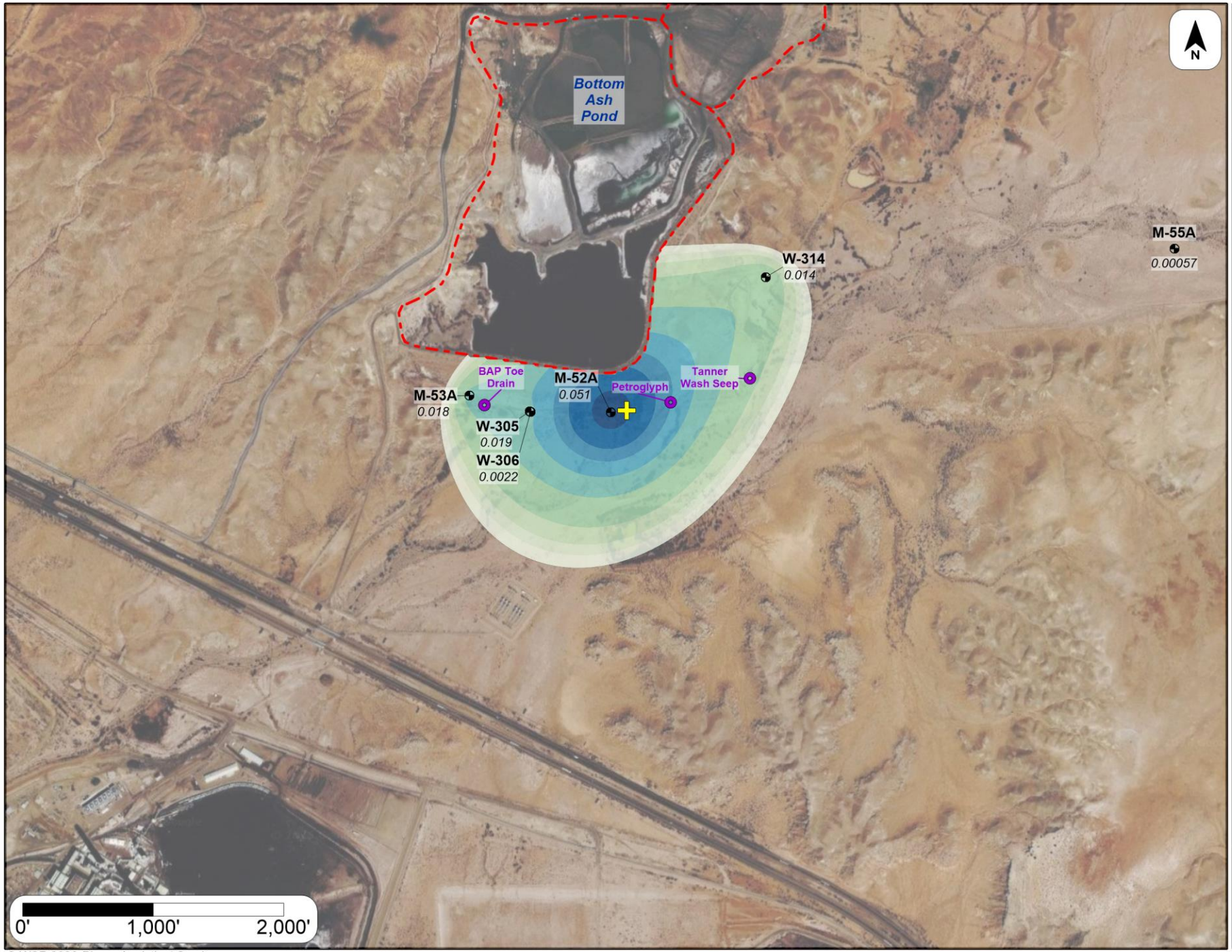
0.006 – GWPS | 0.007 | 0.008 | 0.01 | 0.015 | 0.02 | 0.025 | 0.03 | 0.04 | 0.05

Plume Characteristics

Plume Area: **101 acres**
Plume Average Concentration: **0.016 mg/L**
Plume Mass Indicator: **97.3 lbs**

Monitoring Well	Plume Center of Mass
Extraction Well	Seepage Collection Sump
Hanging Well	
112 — Concentration (mg/L)	
NS (146) — Well Not Sampled (Assigned Value Shown)	
GWPS — Groundwater Protection Standard	

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Cobalt

Apr-2017

Concentration (mg/L)

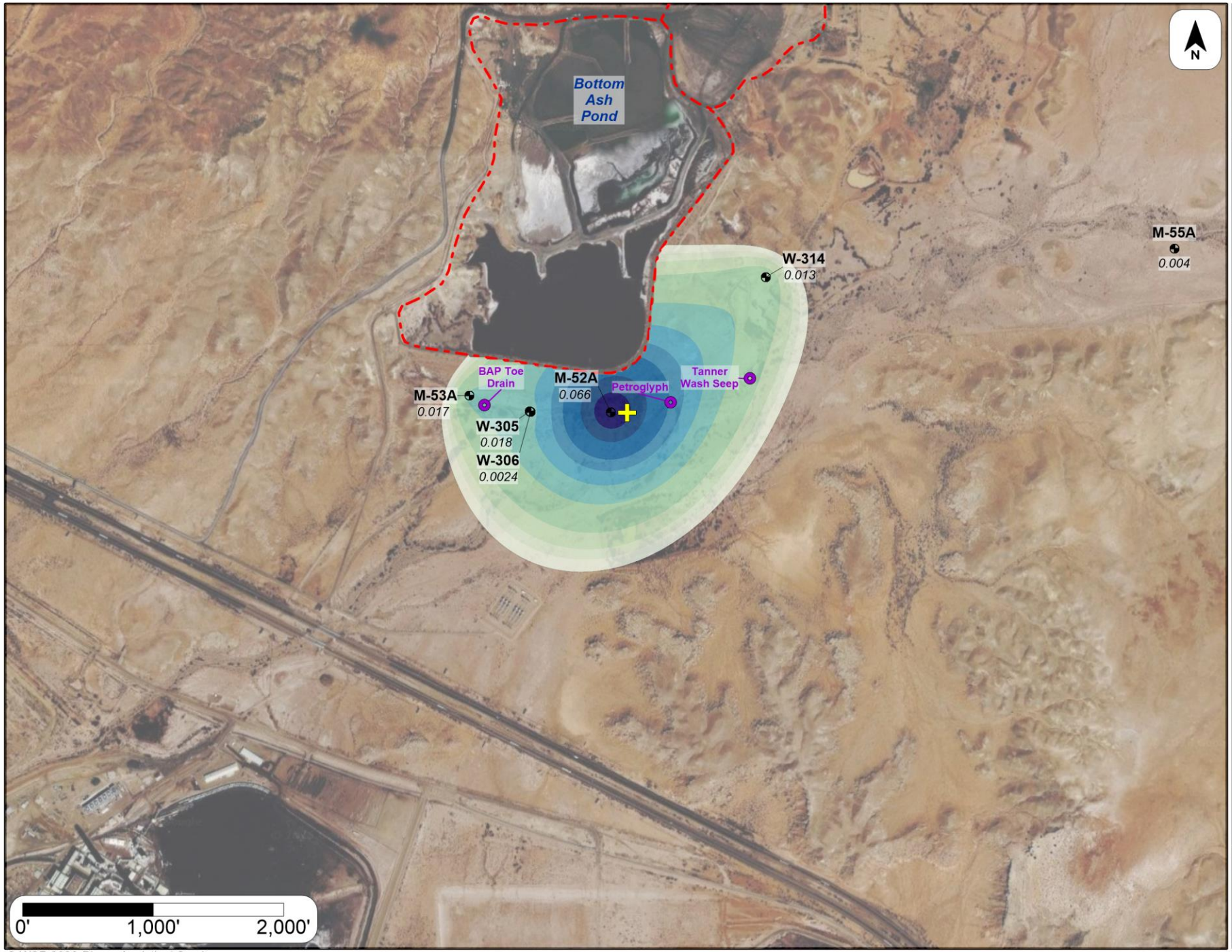
0.006 – GWPS | 0.007 | 0.008 | 0.01 | 0.015 | 0.02 | 0.025 | 0.03 | 0.04 | 0.05

Plume Characteristics

Plume Area: **98.2 acres**
Plume Average Concentration: **0.015 mg/L**
Plume Mass Indicator: **87.9 lbs**

Monitoring Well	Plume Center of Mass
Extraction Well	Seepage Collection Sump
Hanging Well	
112 — Concentration (mg/L)	
NS (146) — Well Not Sampled (Assigned Value Shown)	
GWPS — Groundwater Protection Standard	

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Cobalt

Oct-2017

Concentration (mg/L)

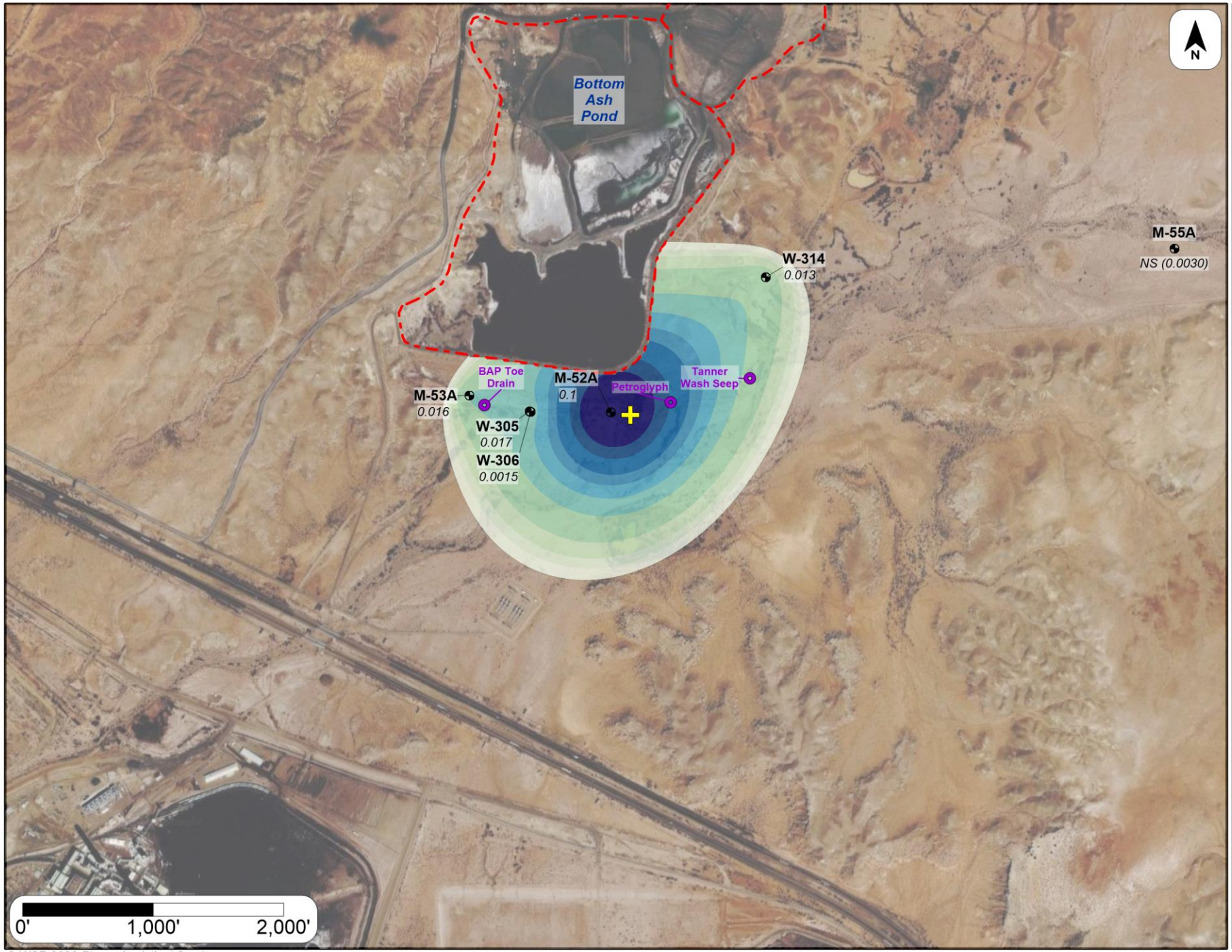
0.006 – GWPS | 0.007 | 0.008 | 0.01 | 0.015 | 0.02 | 0.025 | 0.03 | 0.04 | 0.05

Plume Characteristics

Plume Area: **98.8 acres**
Plume Average Concentration: **0.016 mg/L**
Plume Mass Indicator: **95.3 lbs**

Monitoring Well	Plume Center of Mass
Extraction Well	Seepage Collection Sump
Hanging Well	
112 — Concentration (mg/L)	
NS (146) — Well Not Sampled (Assigned Value Shown)	
GWPS — Groundwater Protection Standard	

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Cobalt

Apr-2018

Concentration (mg/L)

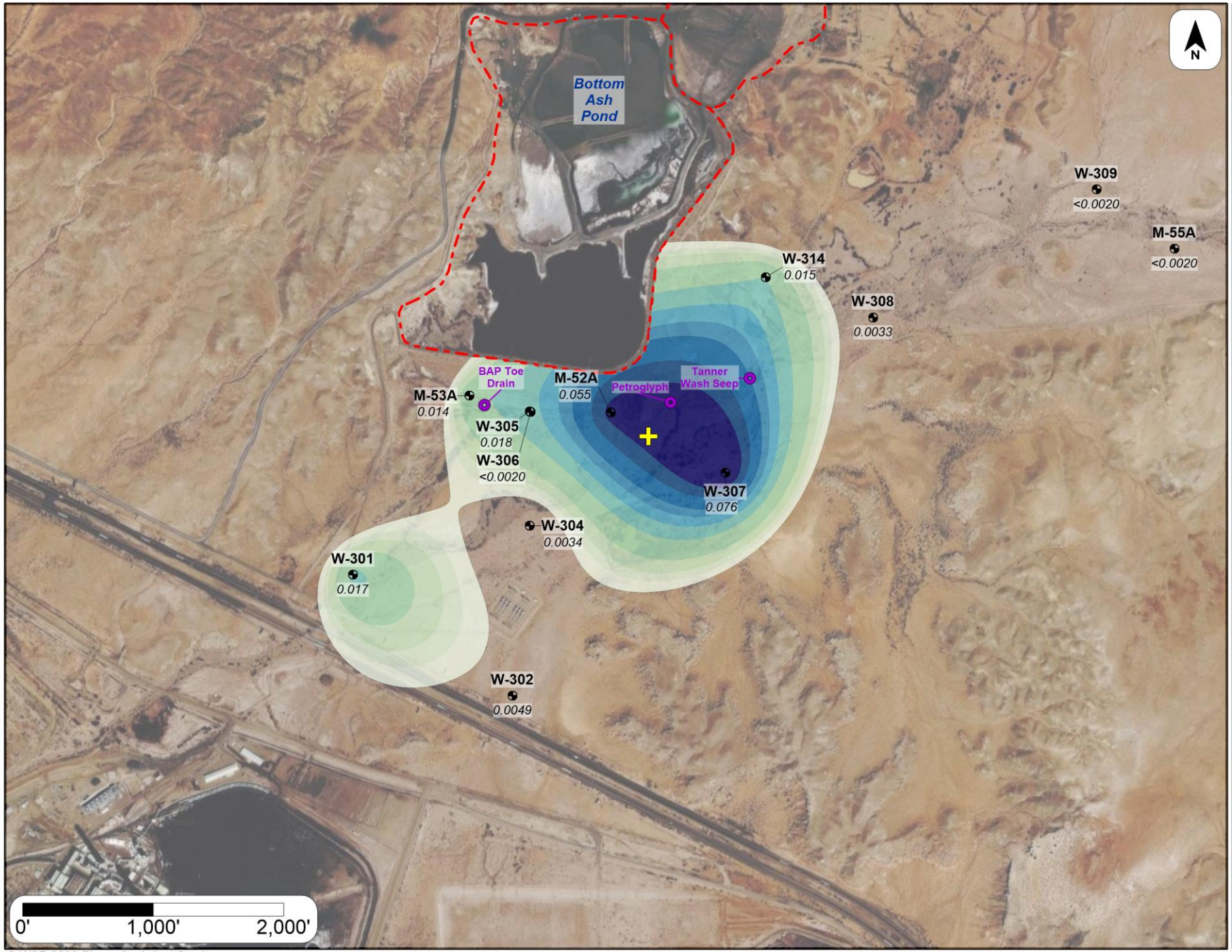
0.006 – GWPS | 0.007 | 0.008 | 0.01 | 0.015 | 0.02 | 0.025 | 0.03 | 0.04 | 0.05

Plume Characteristics

Plume Area: **103 acres**
Plume Average Concentration: **0.019 mg/L**
Plume Mass Indicator: **116 lbs**

Monitoring Well	Plume Center of Mass
Extraction Well	Seepage Collection Sump
Hanging Well	
112	Concentration (mg/L)
NS (146)	Well Not Sampled (Assigned Value Shown)
GWPS	Groundwater Protection Standard

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Cobalt

Oct-2018

Concentration (mg/L)

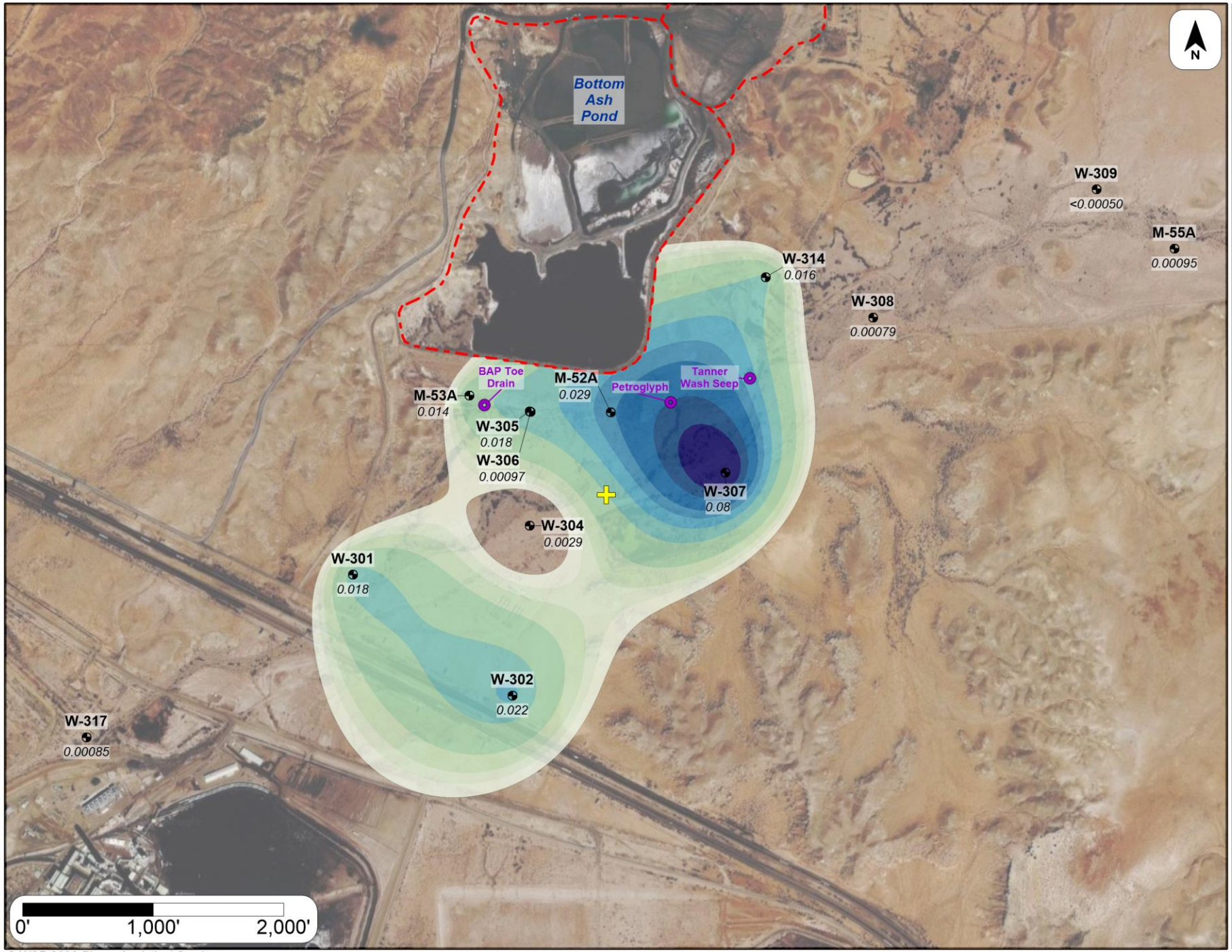
0.006 – GWPS | 0.007 | 0.008 | 0.01 | 0.015 | 0.02 | 0.025 | 0.03 | 0.04 | 0.05

Plume Characteristics

Plume Area: **150 acres**
Plume Average Concentration: **0.020 mg/L**
Plume Mass Indicator: **176 lbs**

◓	Monitoring Well	✚	Plume Center of Mass
⊠	Extraction Well	⊙	Seepage Collection Sump
◓⊠	Hanging Well		
112	Concentration (mg/L)		
NS (146)	Well Not Sampled (Assigned Value Shown)		
GWPS	Groundwater Protection Standard		

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Cobalt

Apr-2019

Concentration (mg/L)

0.006 – GWPS | 0.007 | 0.008 | 0.01 | 0.015 | 0.02 | 0.025 | 0.03 | 0.04 | 0.05

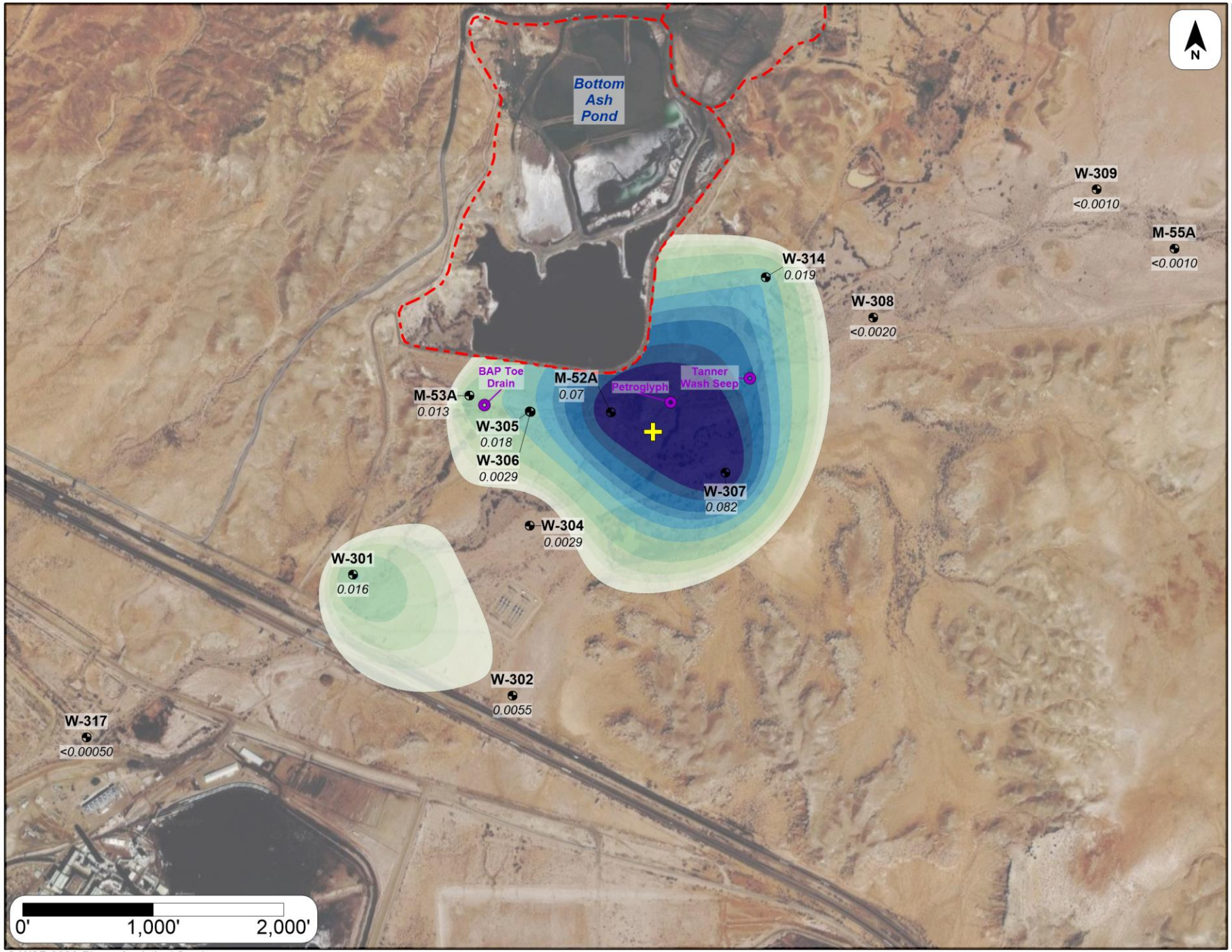
Plume Characteristics

Plume Area: **203 acres**
Plume Average Concentration: **0.016 mg/L**
Plume Mass Indicator: **186 lbs**

◓	Monitoring Well	✚	Plume Center of Mass
⊠	Extraction Well	⊙	Seepage Collection Sump
◓ ⊠	Hanging Well		
112	Concentration (mg/L)		
NS (146)	Well Not Sampled (Assigned Value Shown)		
GWPS	Groundwater Protection Standard		

wsp

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Cobalt

Oct-2019

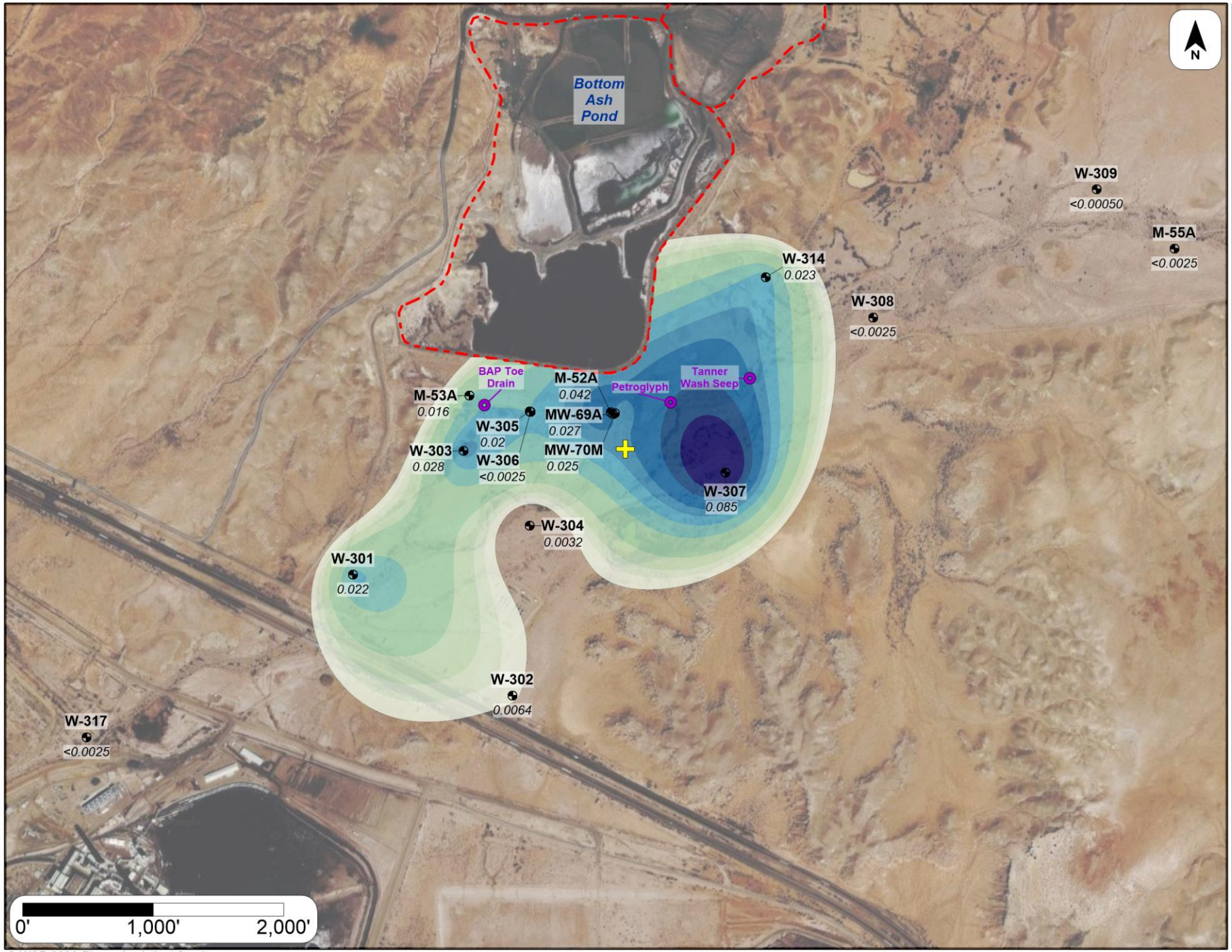
Concentration (mg/L)

0.006 – GWPS | 0.007 | 0.008 | 0.01 | 0.015 | 0.02 | 0.025 | 0.03 | 0.04 | 0.05

Plume Characteristics

Plume Area: **146 acres**
Plume Average Concentration: **0.022 mg/L**
Plume Mass Indicator: **191 lbs**

◓	Monitoring Well	✚	Plume Center of Mass
⊠	Extraction Well	⊙	Seepage Collection Sump
◓⊠	Hanging Well		
112	Concentration (mg/L)		
NS (146)	Well Not Sampled (Assigned Value Shown)		
GWPS	Groundwater Protection Standard		



Cobalt

Apr-2020

Concentration (mg/L)

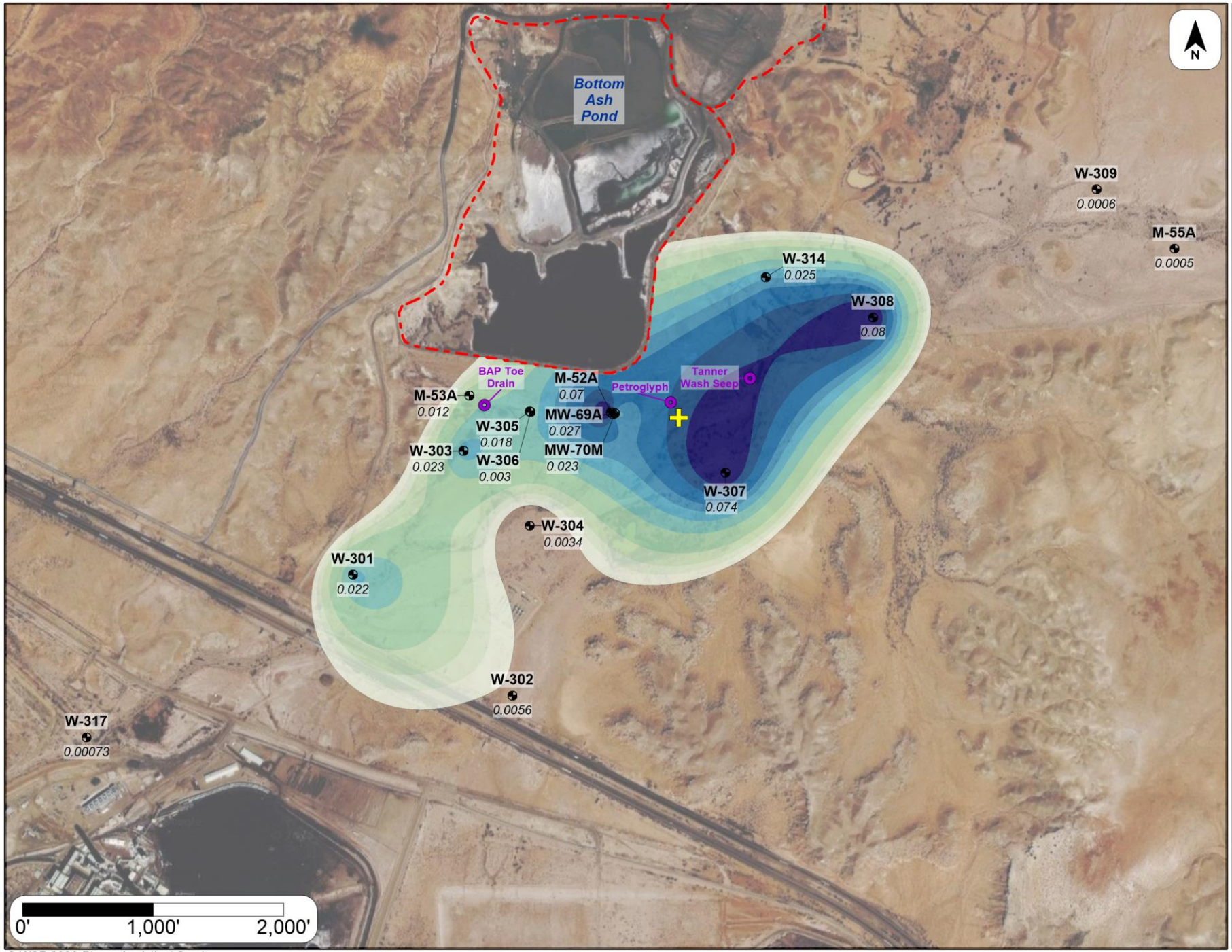
0.006 – GWPS | 0.007 | 0.008 | 0.01 | 0.015 | 0.02 | 0.025 | 0.03 | 0.04 | 0.05

Plume Characteristics

Plume Area: **177 acres**
Plume Average Concentration: **0.018 mg/L**
Plume Mass Indicator: **185 lbs**

Monitoring Well	Plume Center of Mass
Extraction Well	Seepage Collection Sump
Hanging Well	
112 — Concentration (mg/L)	
NS (146) — Well Not Sampled (Assigned Value Shown)	
GWPS — Groundwater Protection Standard	

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Cobalt

Oct-2020

Concentration (mg/L)

0.006 – GWPS | 0.007 | 0.008 | 0.01 | 0.015 | 0.02 | 0.025 | 0.03 | 0.04 | 0.05

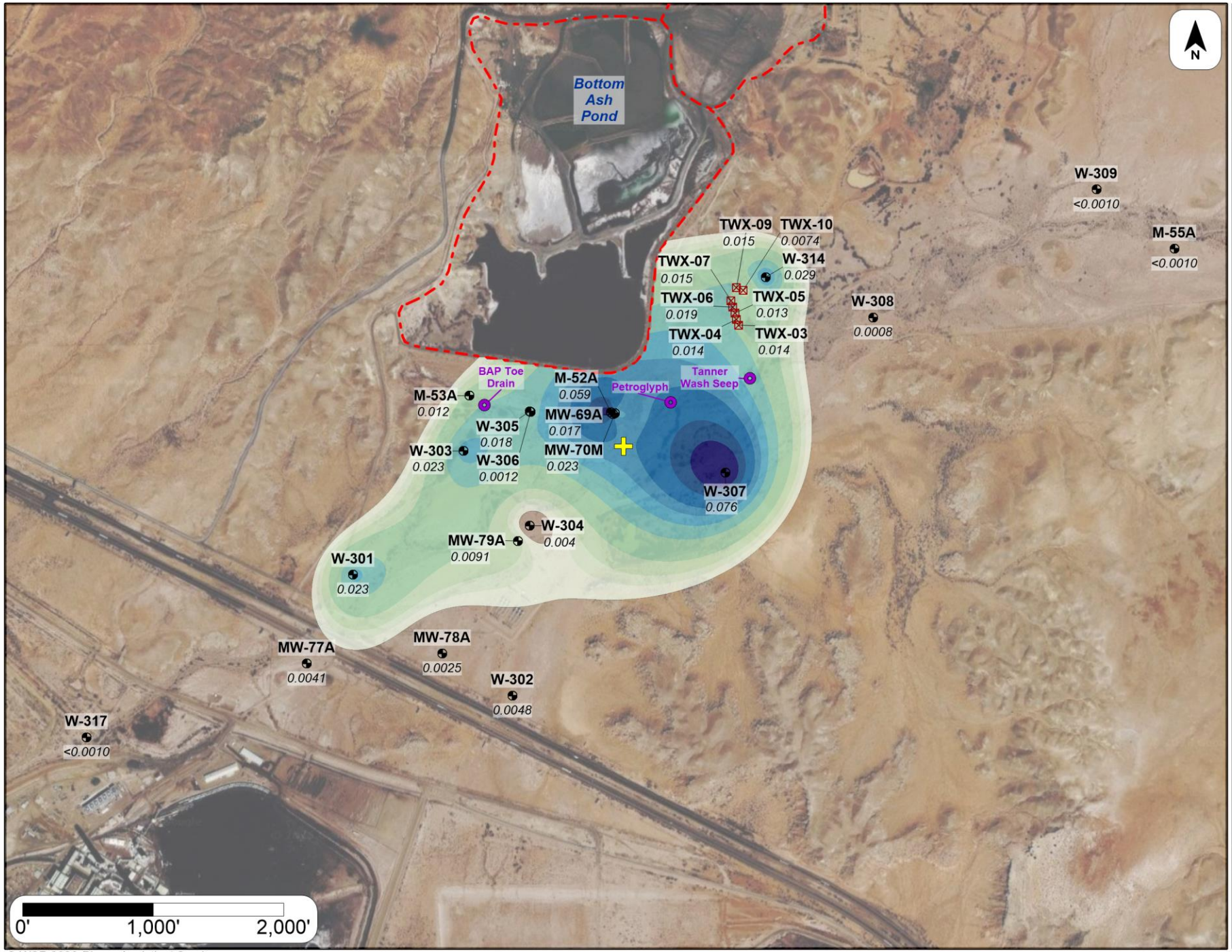
Plume Characteristics

Plume Area: **194 acres**
Plume Average Concentration: **0.021 mg/L**
Plume Mass Indicator: **242 lbs**

◓	Monitoring Well	✚	Plume Center of Mass
⊠	Extraction Well	⊙	Seepage Collection Sump
◓⊠	Hanging Well		
112	Concentration (mg/L)		
NS (146)	Well Not Sampled (Assigned Value Shown)		
GWPS	Groundwater Protection Standard		

wsp

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Cobalt

Apr-2021

Concentration (mg/L)

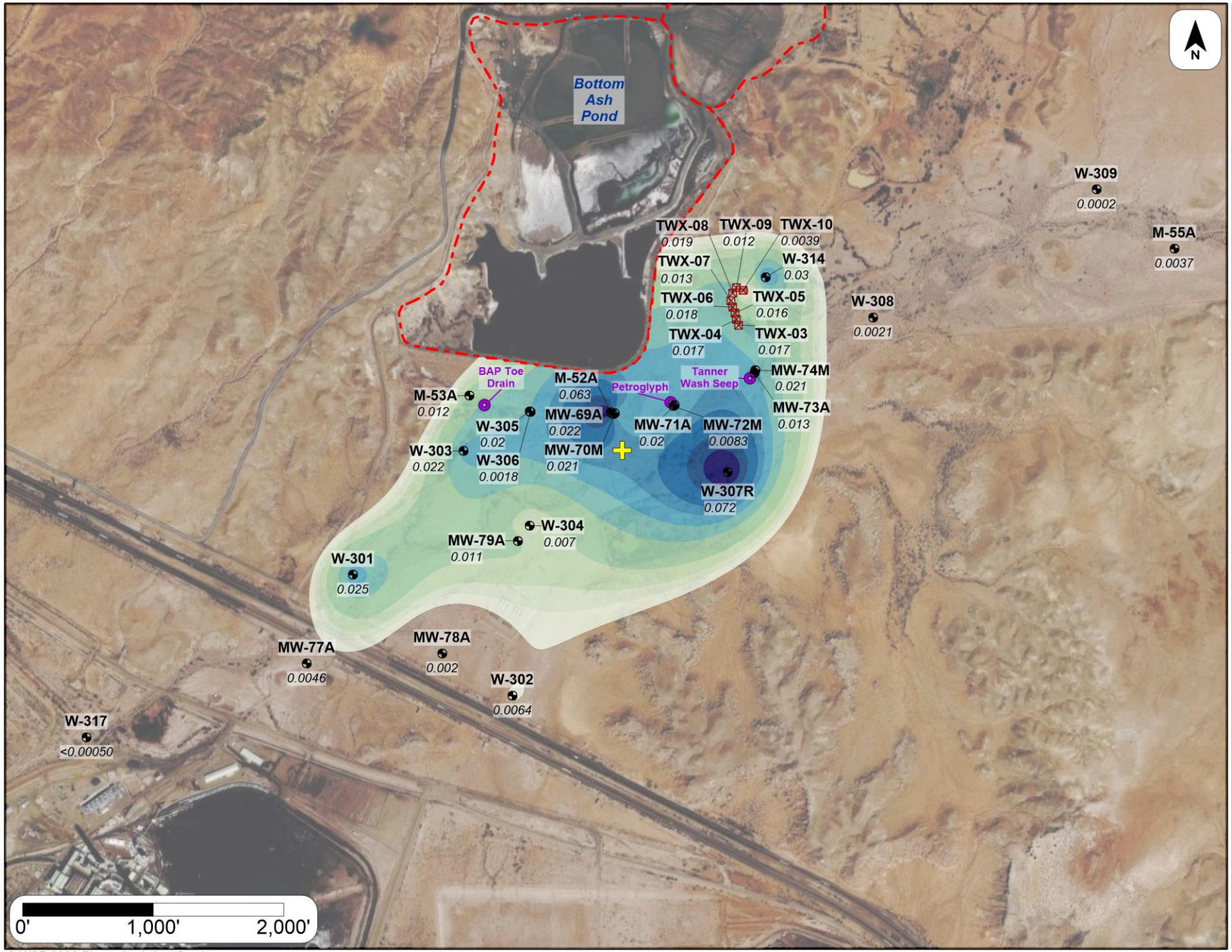
0.006 – GWPS | 0.007 | 0.008 | 0.01 | 0.015 | 0.02 | 0.025 | 0.03 | 0.04 | 0.05

Plume Characteristics

Plume Area: **157 acres**
Plume Average Concentration: **0.017 mg/L**
Plume Mass Indicator: **154 lbs**

◓	Monitoring Well	✚	Plume Center of Mass
⊠	Extraction Well	◉	Seepage Collection Sump
◓ ⊠	Hanging Well		
112	Concentration (mg/L)		
NS (146)	Well Not Sampled (Assigned Value Shown)		
GWPS	Groundwater Protection Standard		

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Cobalt

Oct-2021

Concentration (mg/L)

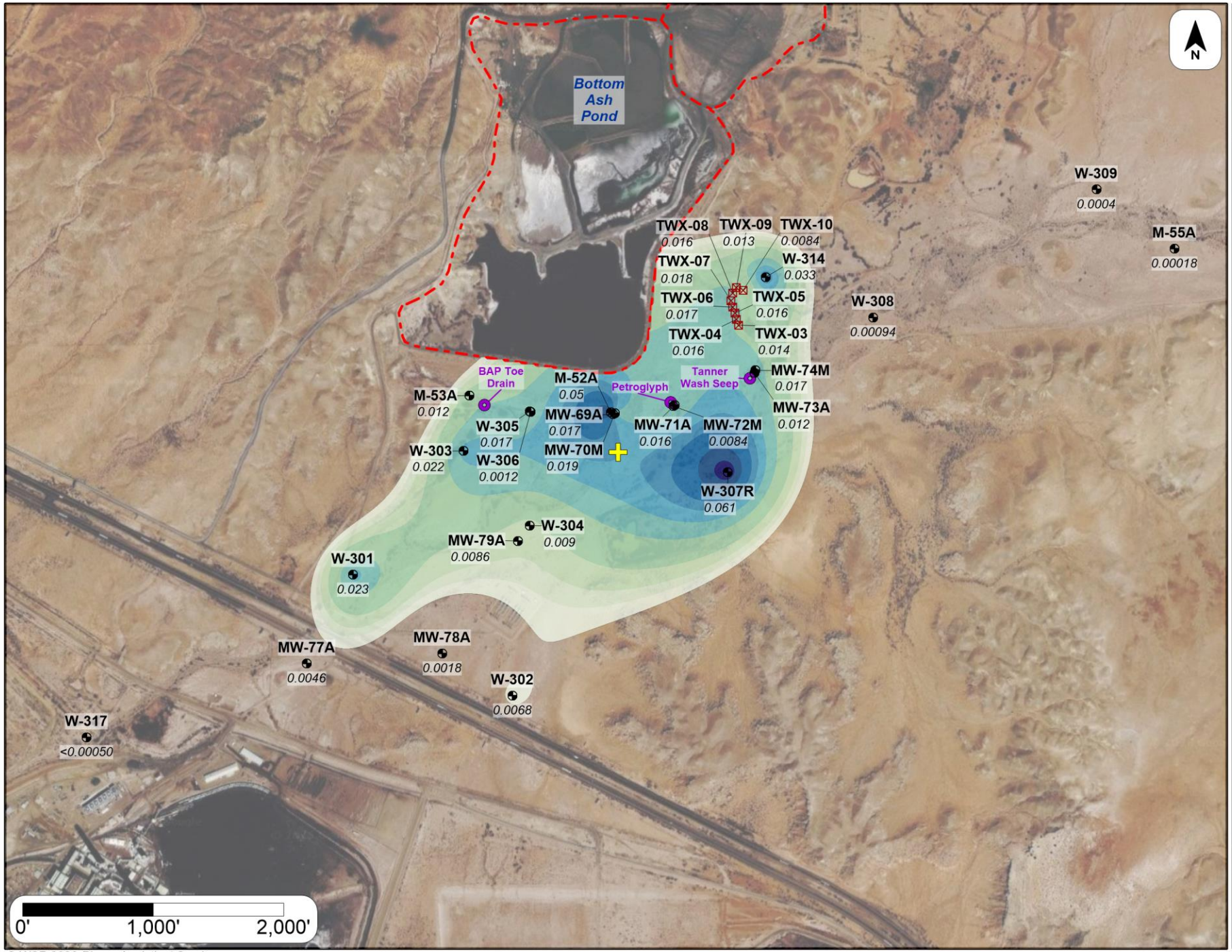
0.006 – GWPS | 0.007 | 0.008 | 0.01 | 0.015 | 0.02 | 0.025 | 0.03 | 0.04 | 0.05

Plume Characteristics

Plume Area: **170 acres**
Plume Average Concentration: **0.016 mg/L**
Plume Mass Indicator: **163 lbs**

Monitoring Well	Plume Center of Mass
Extraction Well	Seepage Collection Sump
Hanging Well	
112 — Concentration (mg/L)	
NS (146) — Well Not Sampled (Assigned Value Shown)	
GWPS — Groundwater Protection Standard	

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Cobalt

Apr-2022

Concentration (mg/L)

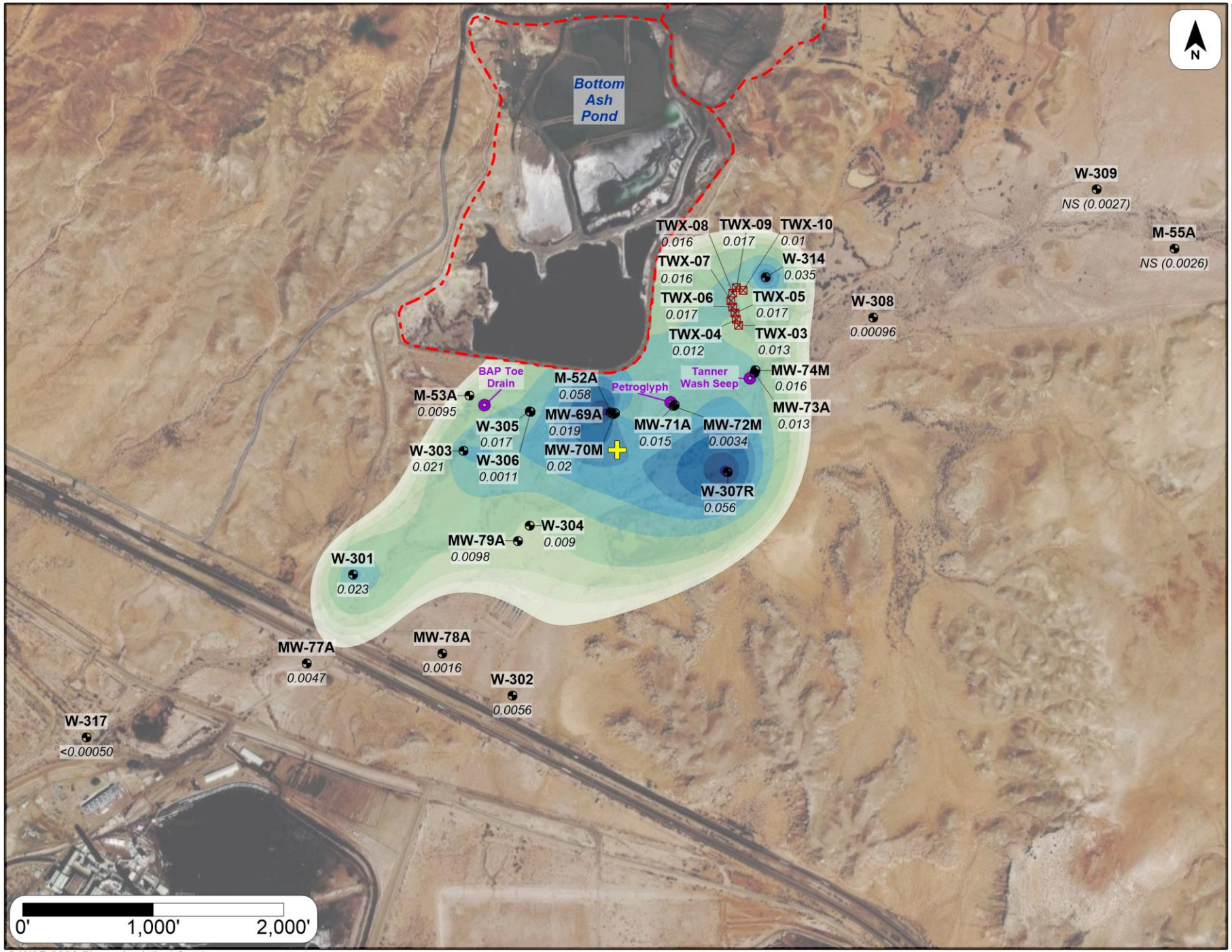
0.006 – GWPS | 0.007 | 0.008 | 0.01 | 0.015 | 0.02 | 0.025 | 0.03 | 0.04 | 0.05

Plume Characteristics

Plume Area: **163 acres**
Plume Average Concentration: **0.015 mg/L**
Plume Mass Indicator: **145 lbs**

Monitoring Well	Plume Center of Mass
Extraction Well	Seepage Collection Sump
Hanging Well	
112 — Concentration (mg/L)	
NS (146) — Well Not Sampled (Assigned Value Shown)	
GWPS — Groundwater Protection Standard	

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Cobalt

Oct-2022

Concentration (mg/L)

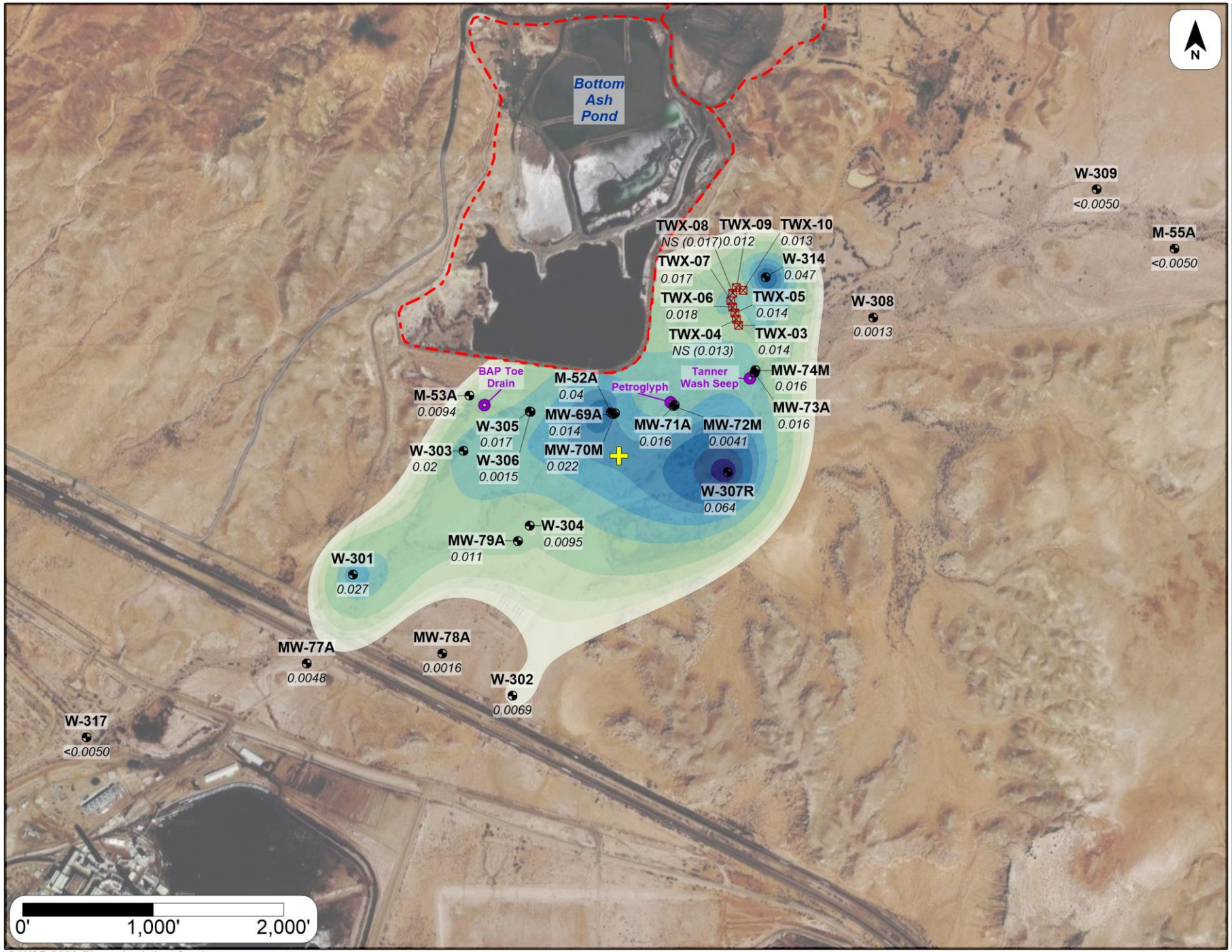
0.006 – GWPS | 0.007 | 0.008 | 0.01 | 0.015 | 0.02 | 0.025 | 0.03 | 0.04 | 0.05

Plume Characteristics

Plume Area: **159 acres**
Plume Average Concentration: **0.015 mg/L**
Plume Mass Indicator: **141 lbs**

Monitoring Well	Plume Center of Mass
Extraction Well	Seepage Collection Sump
Hanging Well	
112 — Concentration (mg/L)	
NS (146) — Well Not Sampled (Assigned Value Shown)	
GWPS — Groundwater Protection Standard	

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Cobalt

Apr-2023

Concentration (mg/L)

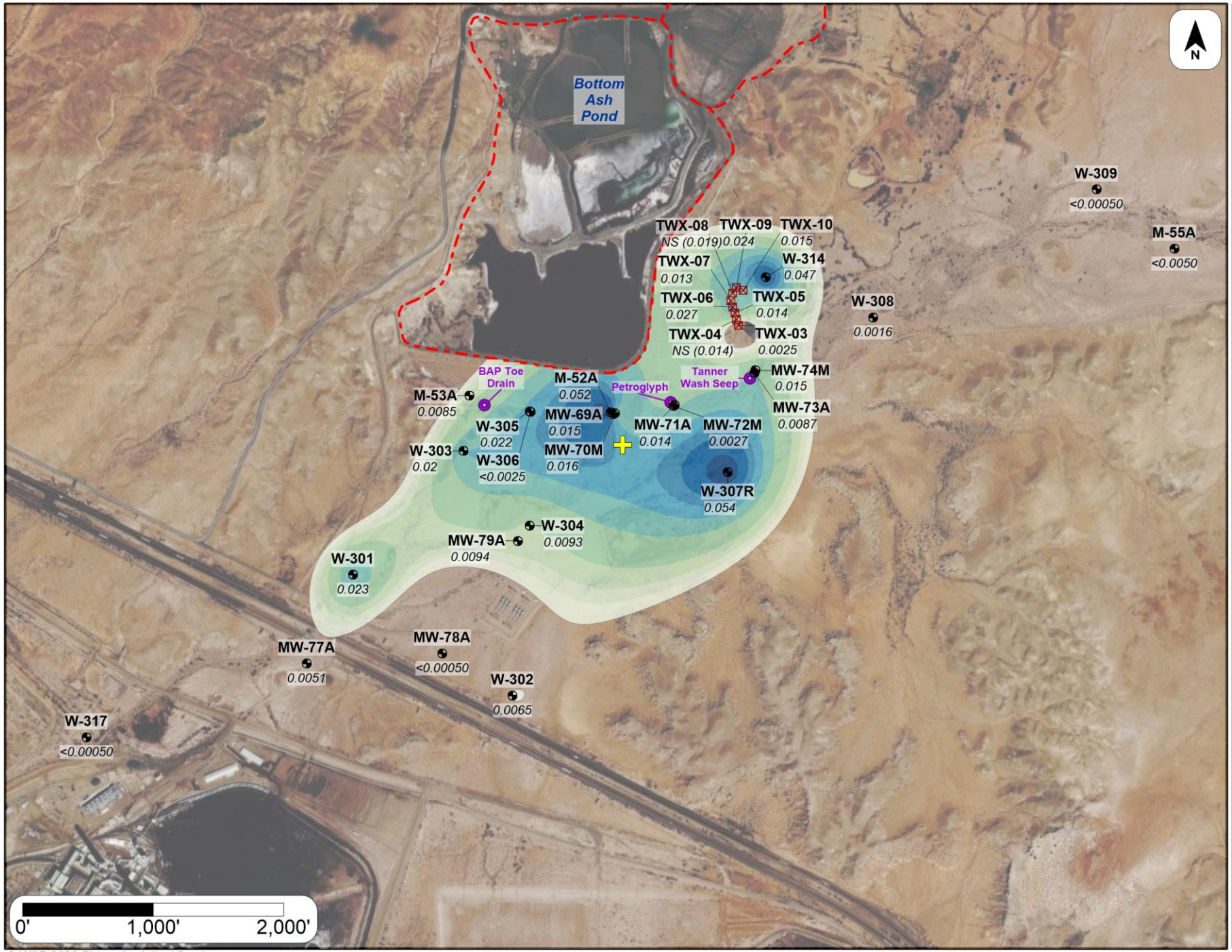
0.006 – GWPS | 0.007 | 0.008 | 0.01 | 0.015 | 0.02 | 0.025 | 0.03 | 0.04 | 0.05

Plume Characteristics

Plume Area: **170 acres**
Plume Average Concentration: **0.015 mg/L**
Plume Mass Indicator: **150 lbs**

Monitoring Well	Plume Center of Mass
Extraction Well	Seepage Collection Sump
Hanging Well	
112 — Concentration (mg/L)	
NS (146) — Well Not Sampled (Assigned Value Shown)	
GWPS — Groundwater Protection Standard	

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Cobalt

Oct-2023

Concentration (mg/L)

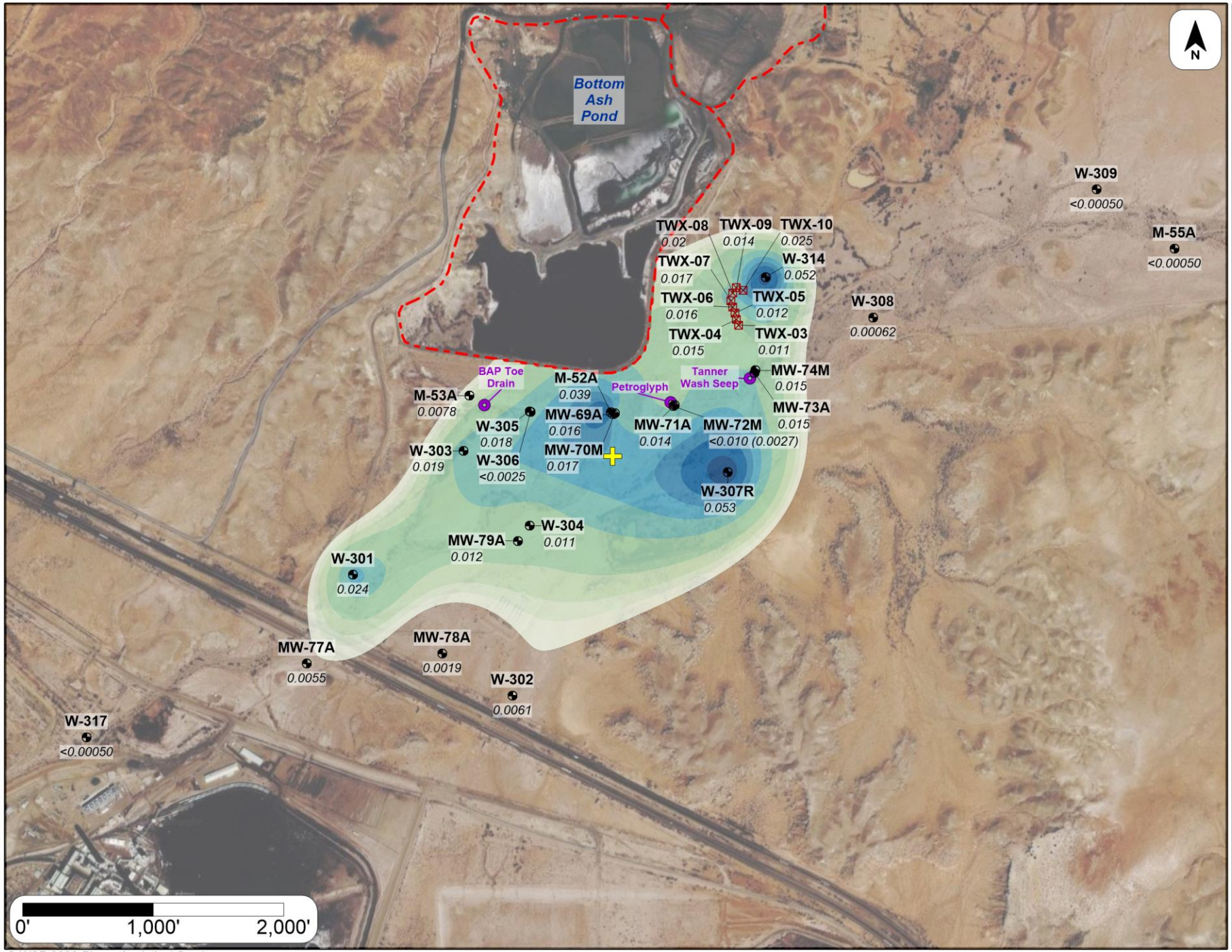
0.006 – GWPS | 0.007 | 0.008 | 0.01 | 0.015 | 0.02 | 0.025 | 0.03 | 0.04 | 0.05

Plume Characteristics

Plume Area: **154 acres**
Plume Average Concentration: **0.015 mg/L**
Plume Mass Indicator: **134 lbs**

Monitoring Well	Plume Center of Mass
Extraction Well	Seepage Collection Sump
Hanging Well	
112 — Concentration (mg/L)	
NS (146) — Well Not Sampled (Assigned Value Shown)	
GWPS — Groundwater Protection Standard	

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Cobalt

Apr-2024

Concentration (mg/L)

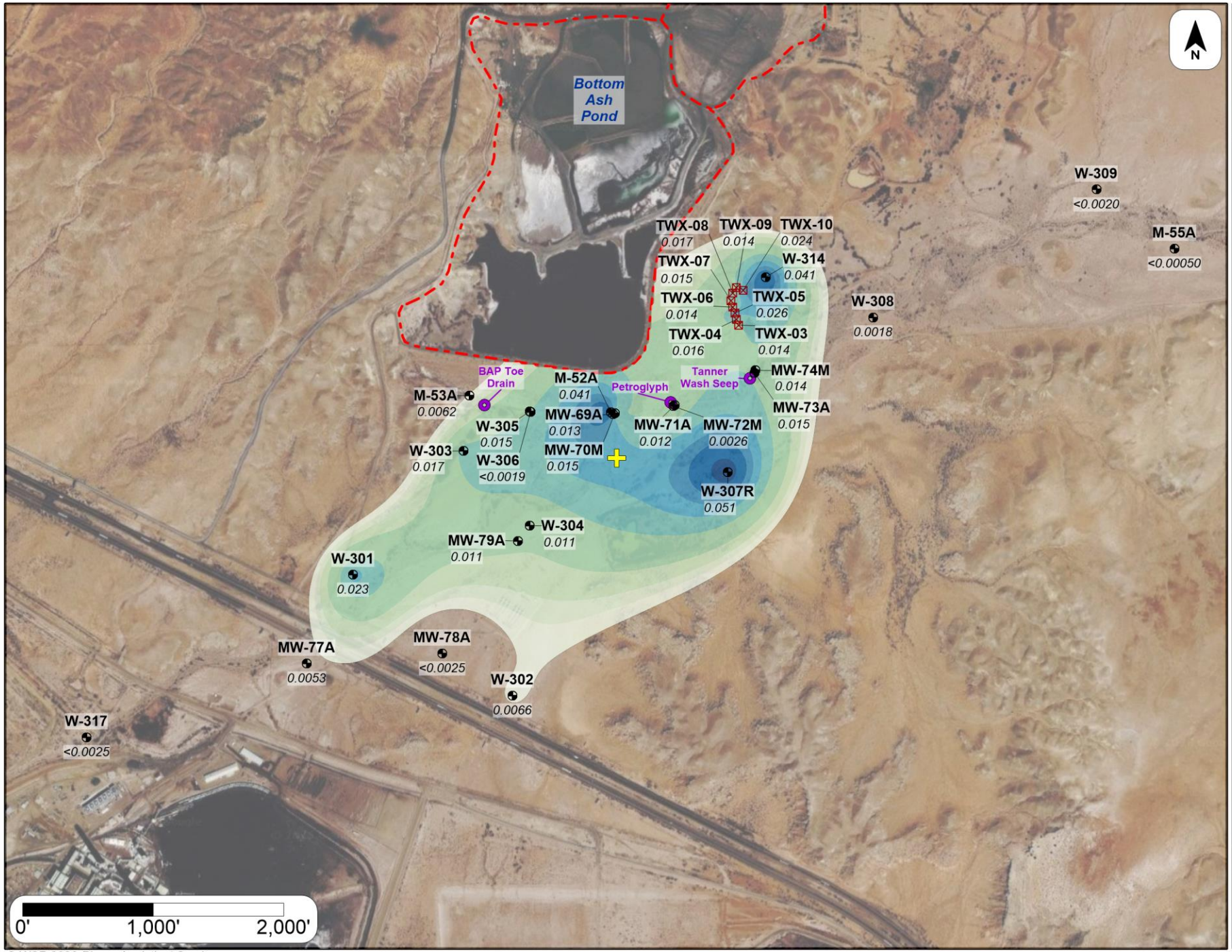
0.006 – GWPS | 0.007 | 0.008 | 0.01 | 0.015 | 0.02 | 0.025 | 0.03 | 0.04 | 0.05

Plume Characteristics

Plume Area: **165 acres**
Plume Average Concentration: **0.015 mg/L**
Plume Mass Indicator: **140 lbs**

Monitoring Well	Plume Center of Mass
Extraction Well	Seepage Collection Sump
Hanging Well	
112 — Concentration (mg/L)	
NS (146) — Well Not Sampled (Assigned Value Shown)	
GWPS — Groundwater Protection Standard	

wsp



Cobalt

Oct-2024

Concentration (mg/L)

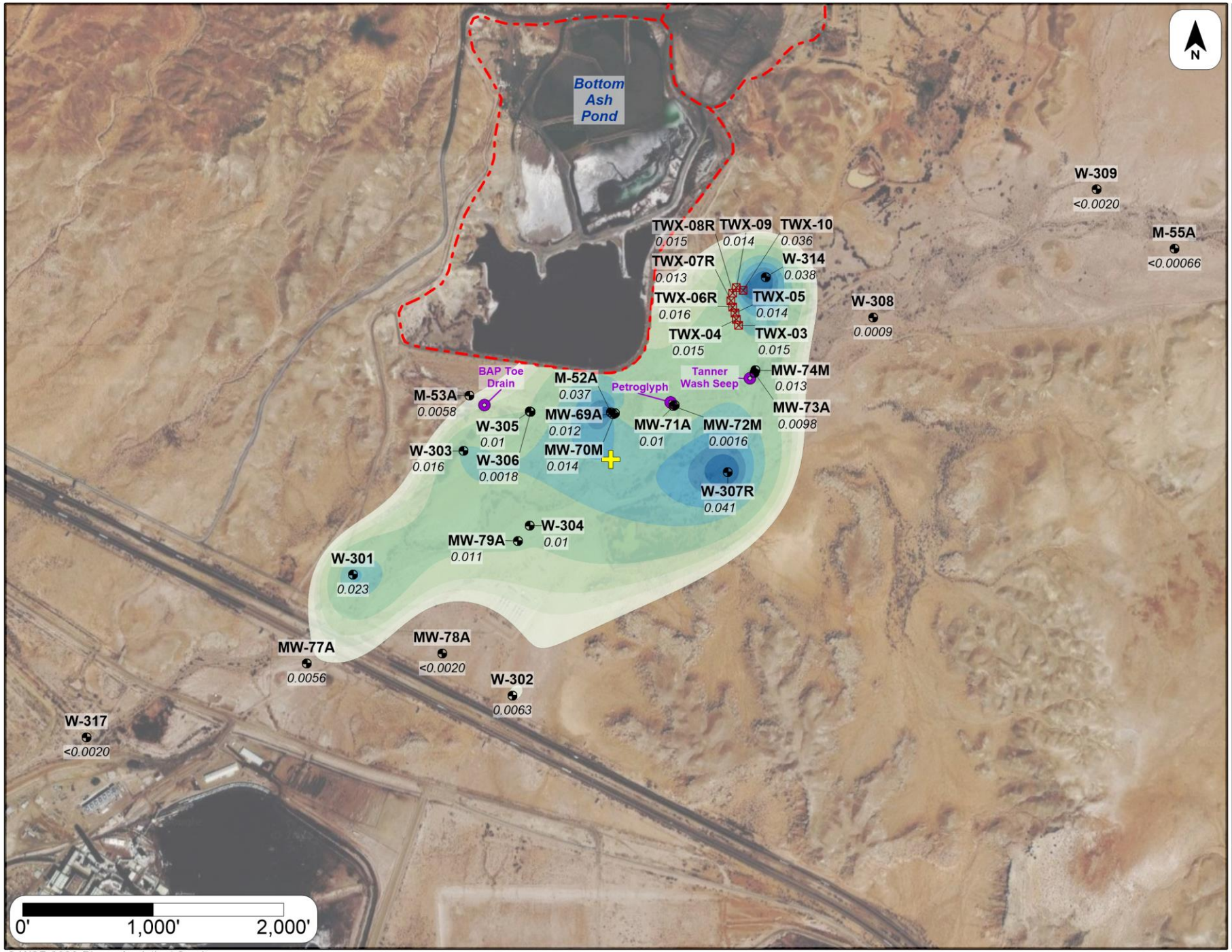
0.006 – GWPS | 0.007 | 0.008 | 0.01 | 0.015 | 0.02 | 0.025 | 0.03 | 0.04 | 0.05

Plume Characteristics

Plume Area: **170 acres**
Plume Average Concentration: **0.014 mg/L**
Plume Mass Indicator: **136 lbs**

Monitoring Well	Plume Center of Mass
Extraction Well	Seepage Collection Sump
Hanging Well	
112 — Concentration (mg/L)	
NS (146) — Well Not Sampled (Assigned Value Shown)	
GWPS — Groundwater Protection Standard	

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Cobalt

Apr-2025

Concentration (mg/L)

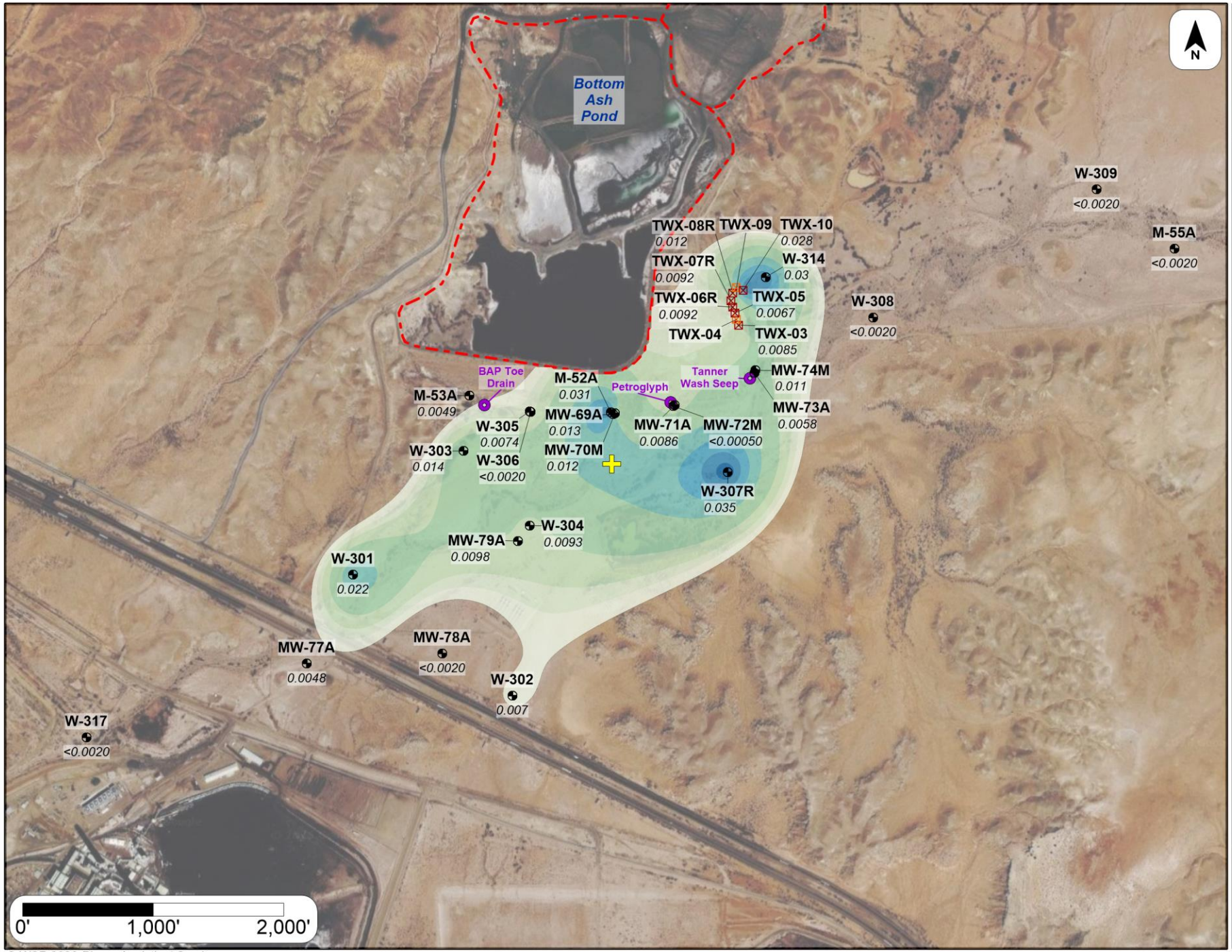
0.006 – GWPS | 0.007 | 0.008 | 0.01 | 0.015 | 0.02 | 0.025 | 0.03 | 0.04 | 0.05

Plume Characteristics

Plume Area: **159 acres**
Plume Average Concentration: **0.013 mg/L**
Plume Mass Indicator: **117 lbs**

◓	Monitoring Well	✚	Plume Center of Mass
⊠	Extraction Well	◉	Seepage Collection Sump
◓ ⊠	Hanging Well		
112	Concentration (mg/L)		
NS (146)	Well Not Sampled (Assigned Value Shown)		
GWPS	Groundwater Protection Standard		

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Cobalt

Oct-2025

Concentration (mg/L)

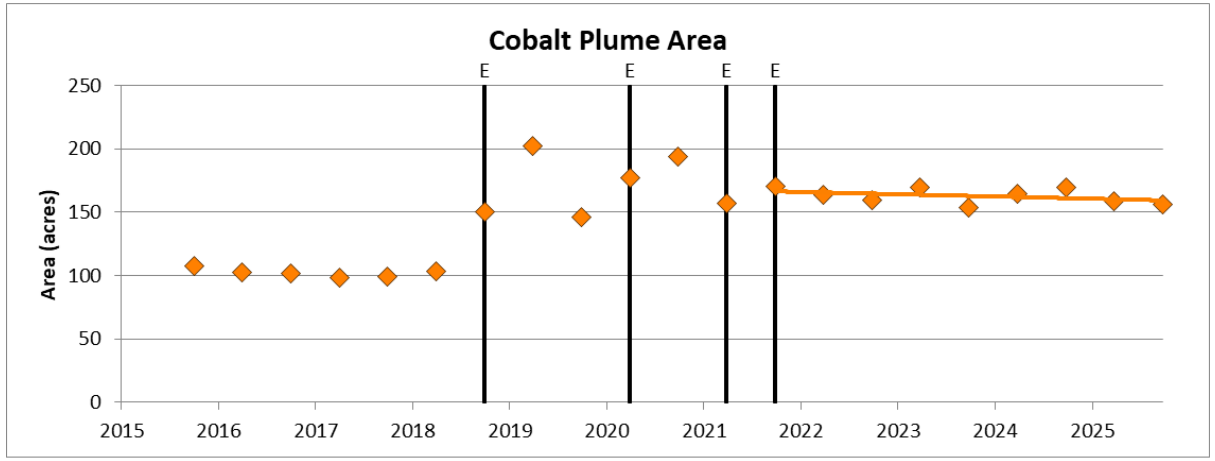
0.006 – GWPS | 0.007 | 0.008 | 0.01 | 0.015 | 0.02 | 0.025 | 0.03 | 0.04 | 0.05

Plume Characteristics

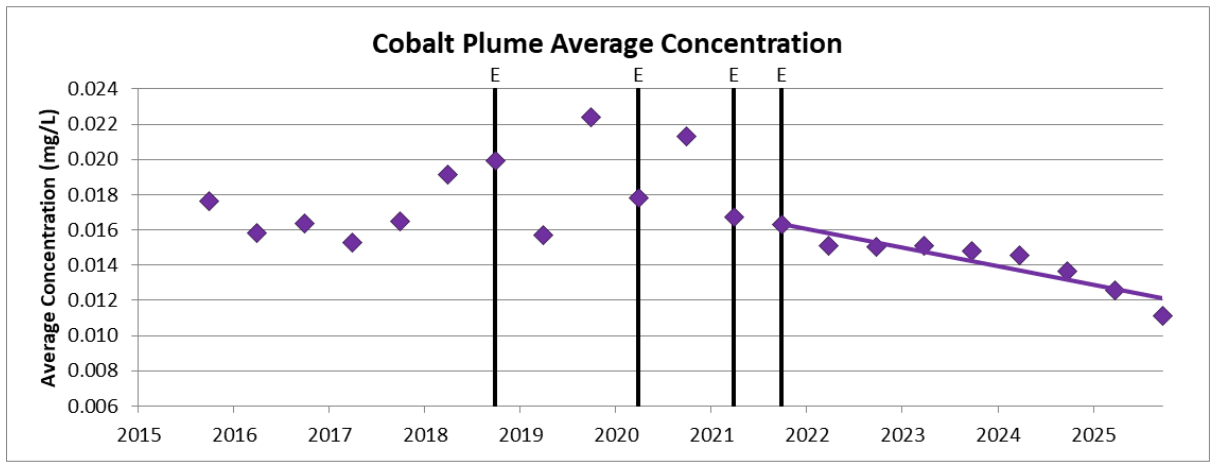
Plume Area: **157 acres**
Plume Average Concentration: **0.011 mg/L**
Plume Mass Indicator: **102 lbs**

◓	Monitoring Well	✚	Plume Center of Mass
⊠	Extraction Well	◉	Seepage Collection Sump
◓ ⊠	Hanging Well		
112	Concentration (mg/L)		
NS (146)	Well Not Sampled (Assigned Value Shown)		
GWPS	Groundwater Protection Standard		

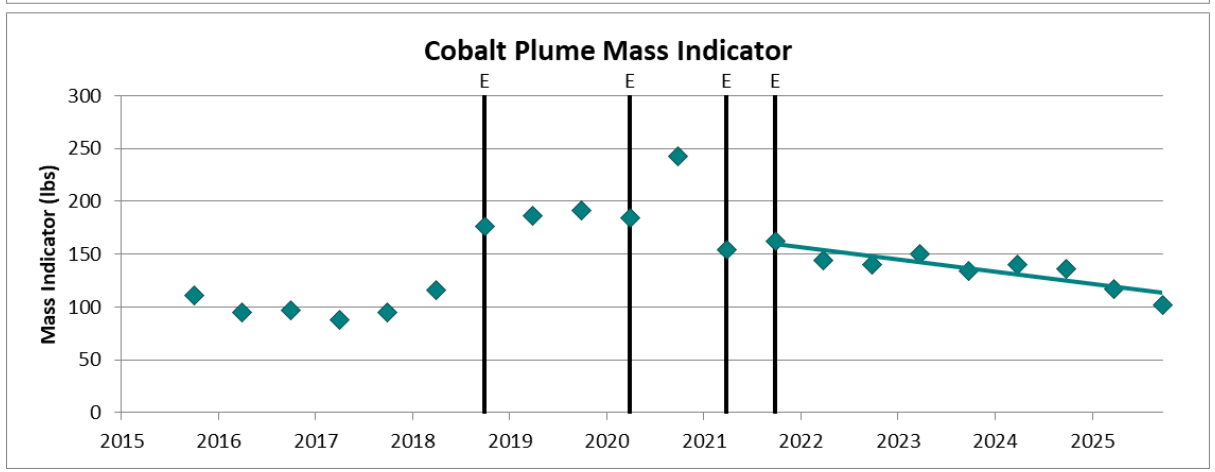
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Oct-2021 to Oct-2025
Stable/Decreasing Trend
Mann-Kendall: 91% Confidence
Regression: 71% Confidence



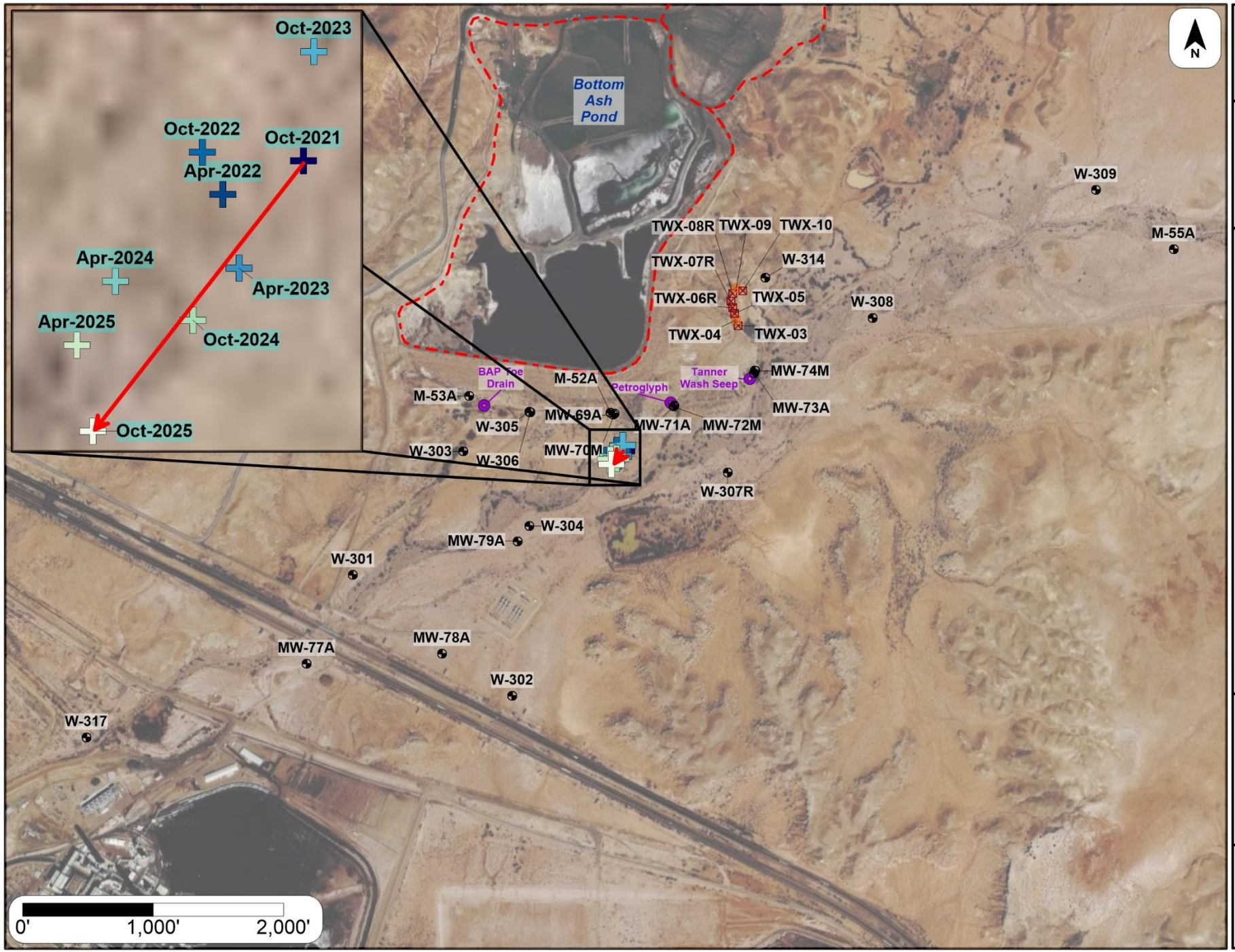
Oct-2021 to Oct-2025
Decreasing Trend
Mann-Kendall: >99% Confidence
Regression: >99% Confidence



Oct-2021 to Oct-2025
Decreasing Trend
Mann-Kendall: >99% Confidence
Regression: >99% Confidence

E – Network Expansion

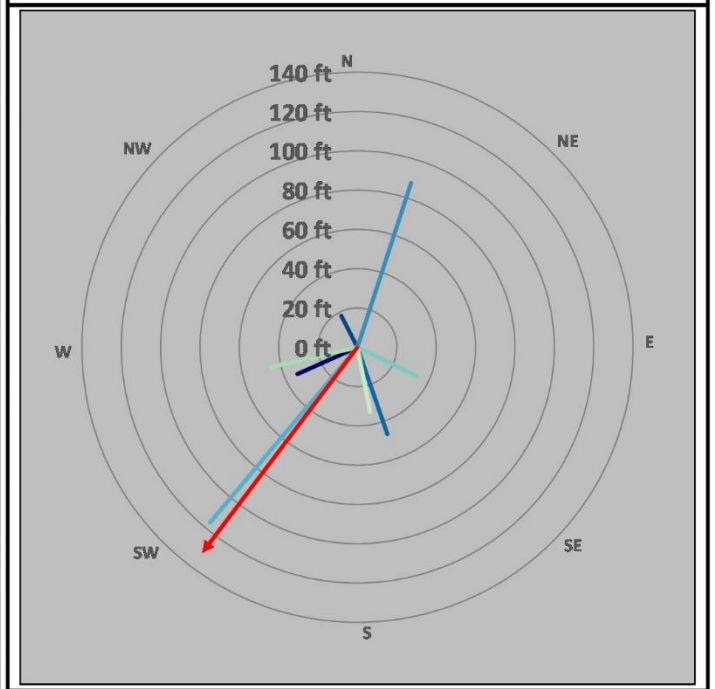
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Cobalt

Center of Mass Scale

2021 → 2025



- Monitoring Well
- Extraction Well
- Hanging Well
- Seepage Collection Sump
- Center of Mass Movement
- Net Movement

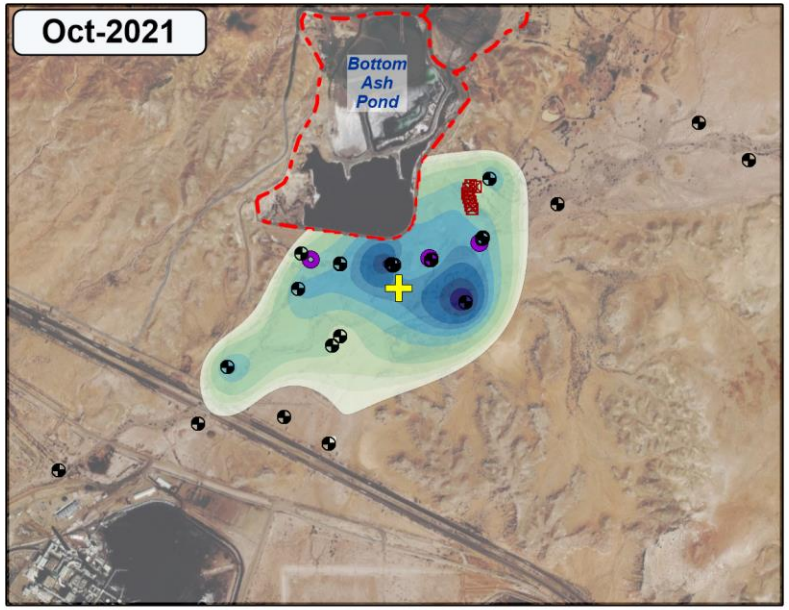
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Cobalt Spatial Changes Oct-2021 vs Apr-2022

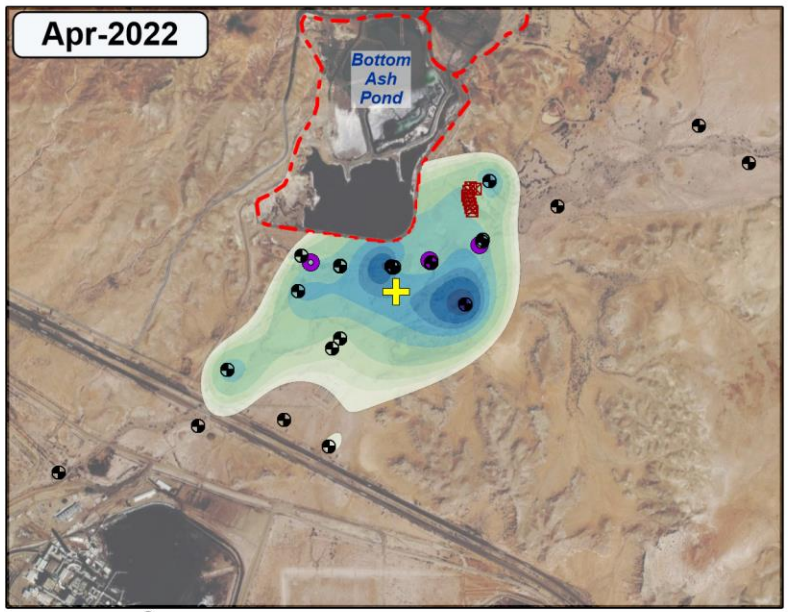
Plume Characteristics

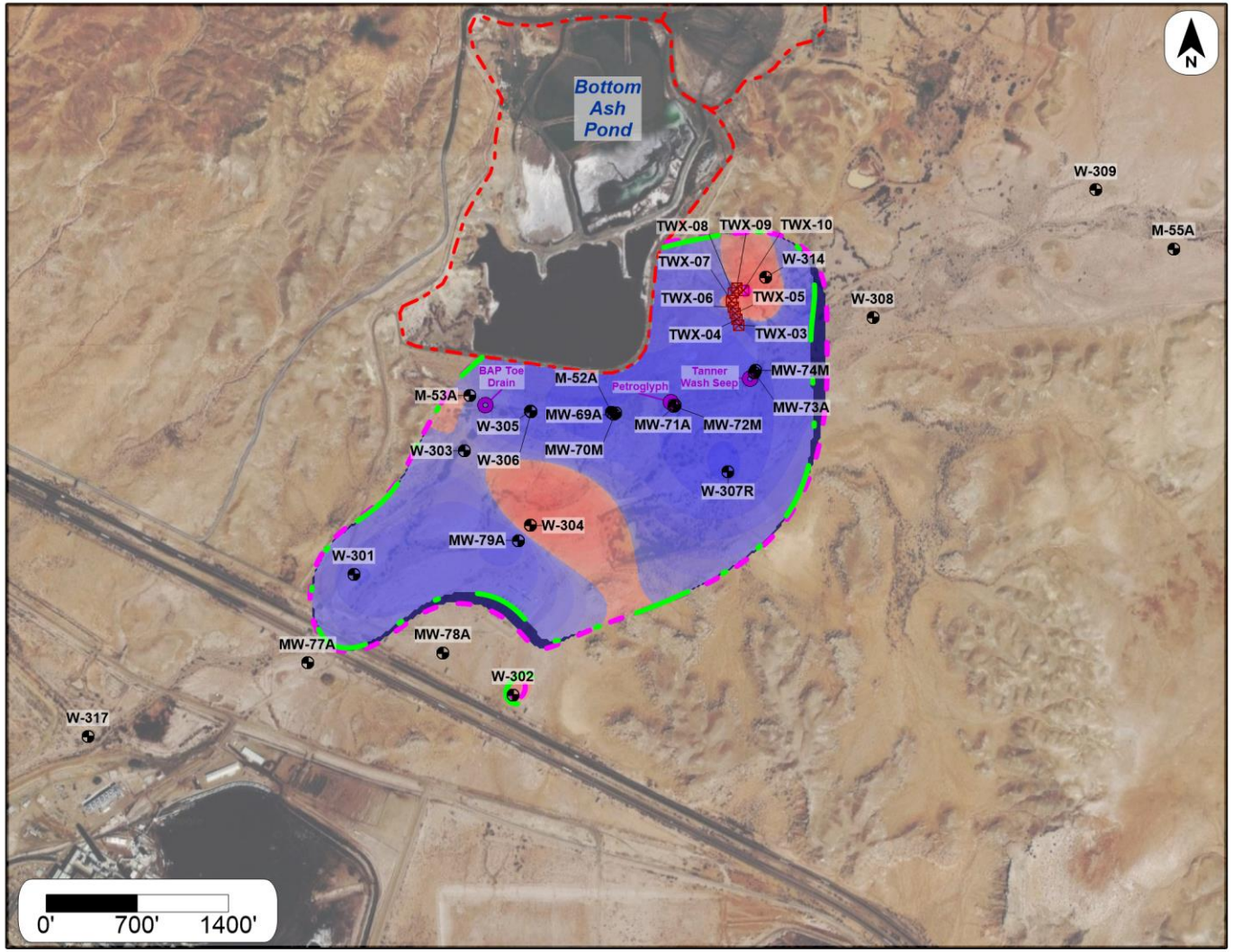
Area: **4% Decrease**
Average Concentration: **7% Decrease**
Mass Indicator: **11% Decrease**
Mass Increase: **1.44 lbs Increase**
Mass Decrease: **19.5 lbs Decrease**

Monitoring Well
Extraction Well
Hanging Well
GWPS Groundwater Protection Standard
Plume Center of Mass
Seepage Collection Sump
Oct-2021 Plume Boundary
Apr-2022 Plume Boundary



GWPS
Concentration (mg/L)
0.006 0.007 0.008 0.01 0.015 0.02 0.025 0.03 0.04 0.05





Spatial Change Indicator™
Increase
Decrease

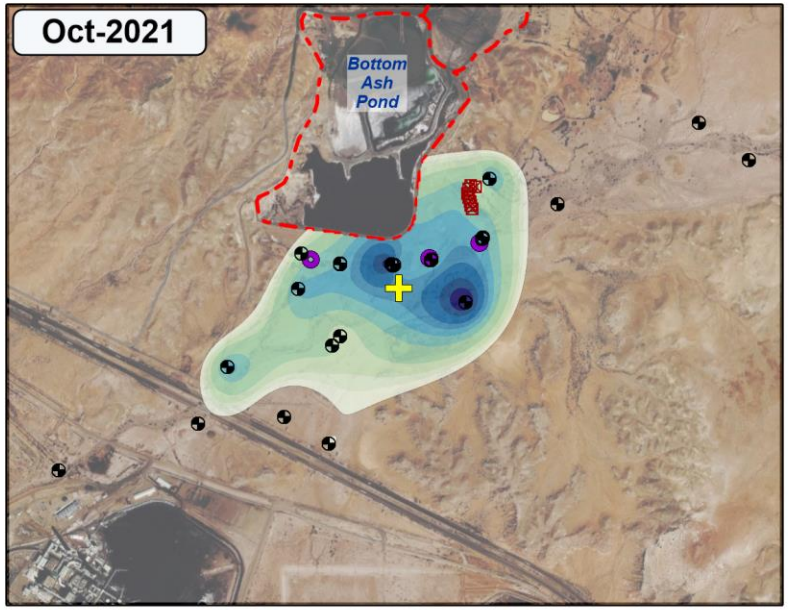
Plume Analytics® Services © WSP 2026 US Pat. No. 10,400,583

Cobalt Spatial Changes Oct-2021 vs Oct-2022

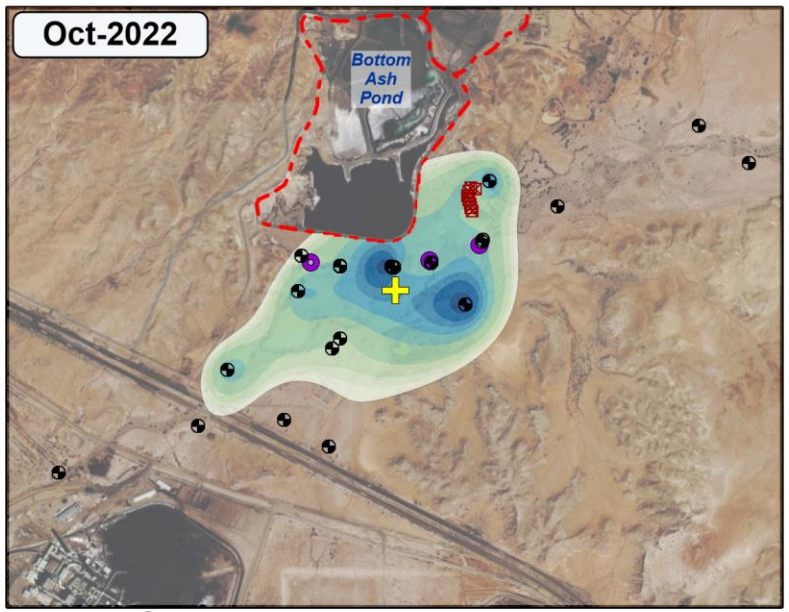
Plume Characteristics

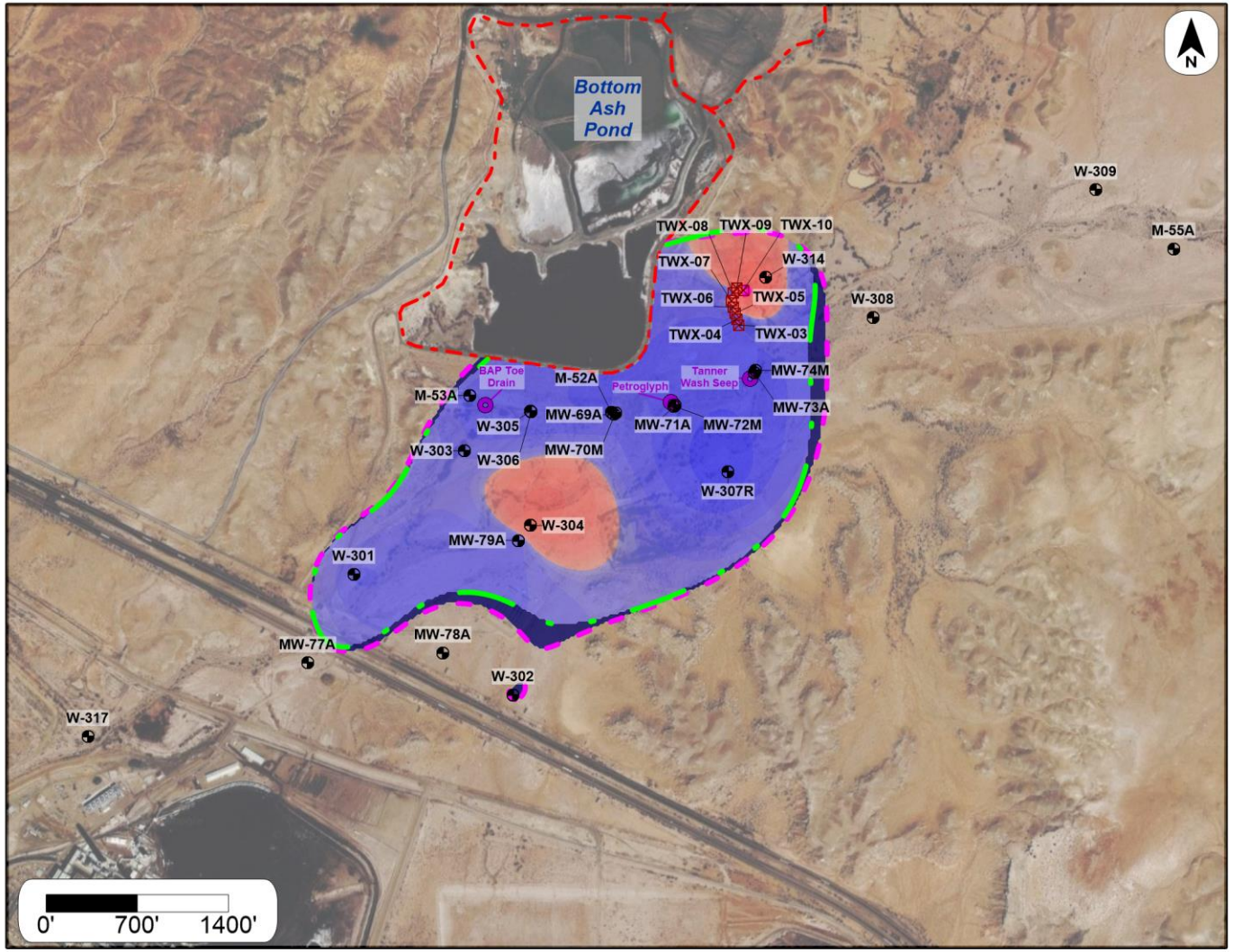
Area: **6% Decrease**
Average Concentration: **8% Decrease**
Mass Indicator: **14% Decrease**
Mass Increase: **1.97 lbs Increase**
Mass Decrease: **24.0 lbs Decrease**

Monitoring Well
Extraction Well
Hanging Well
GWPS Groundwater Protection Standard
Plume Center of Mass
Seepage Collection Sump
Oct-2021 Plume Boundary
Oct-2022 Plume Boundary



GWPS
Concentration (mg/L)
0.006 0.007 0.008 0.01 0.015 0.02 0.025 0.03 0.04 0.05





Spatial Change Indicator™
Increase
Decrease

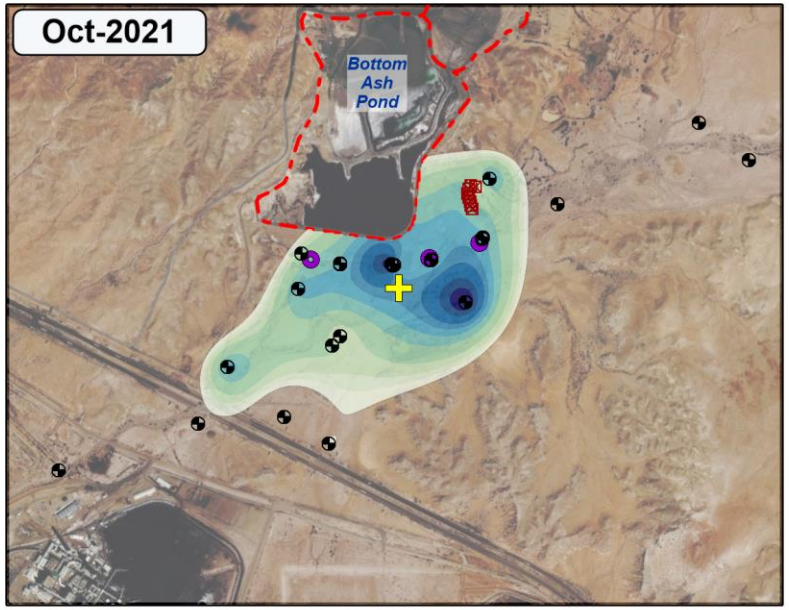
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Cobalt Spatial Changes Oct-2021 vs Apr-2023

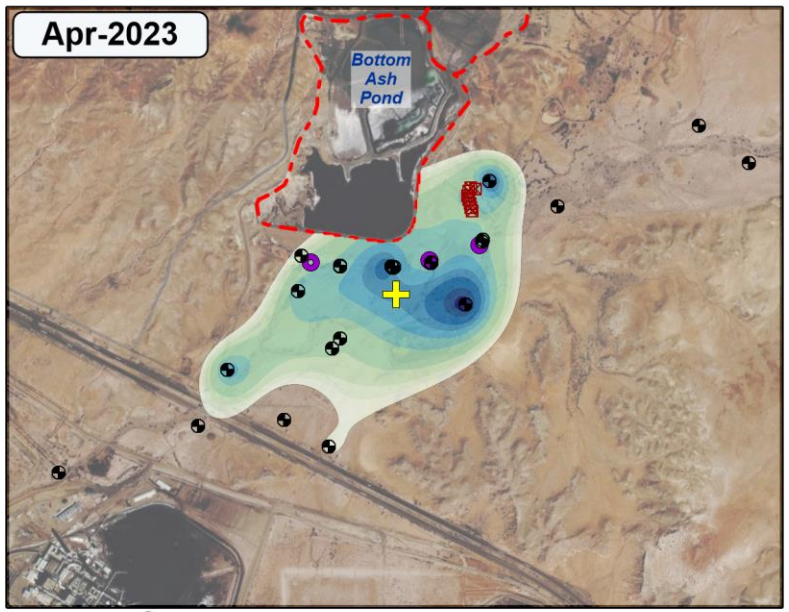
Plume Characteristics

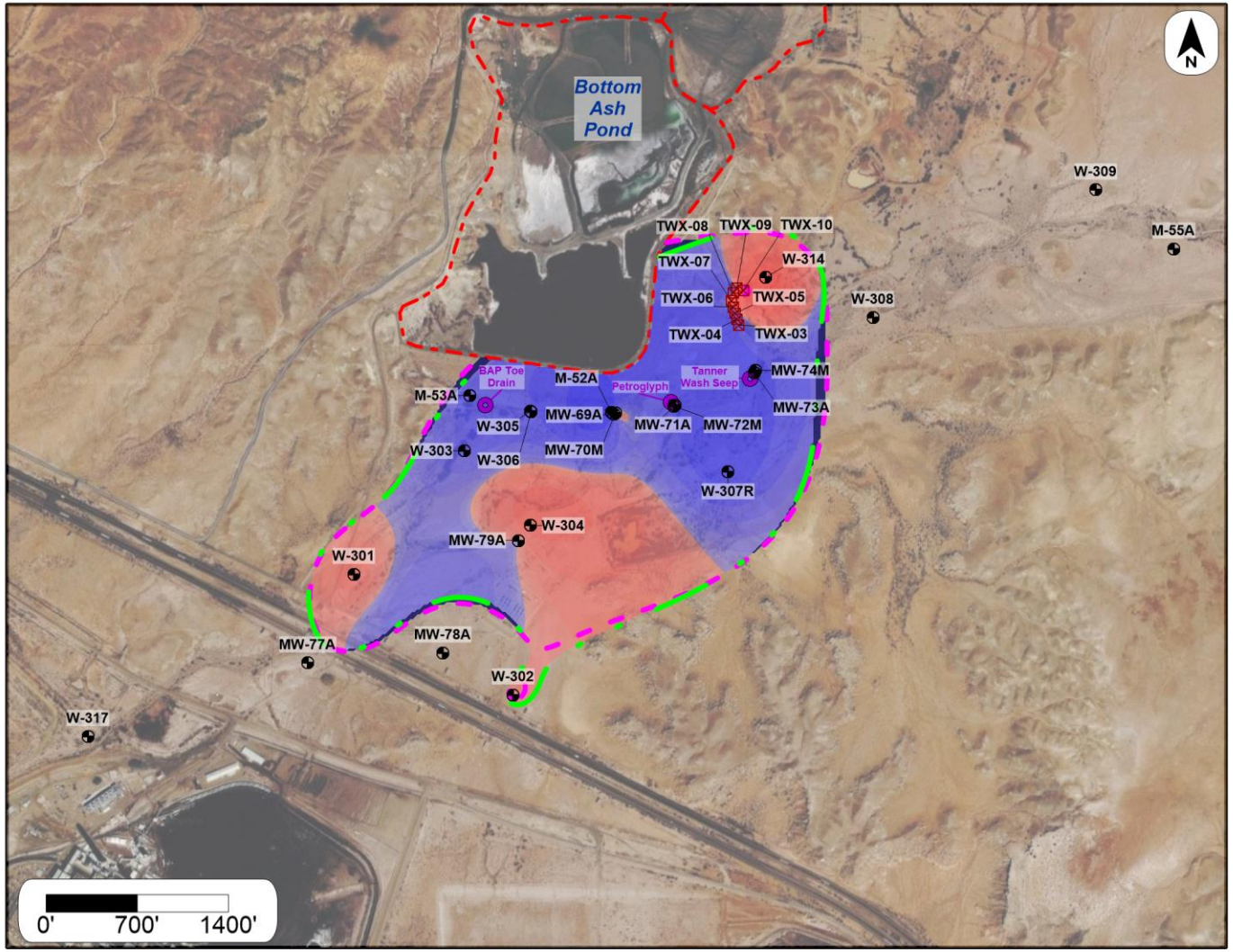
Area: **0% Decrease**
Average Concentration: **7% Decrease**
Mass Indicator: **8% Decrease**
Mass Increase: **5.83 lbs Increase**
Mass Decrease: **18.5 lbs Decrease**

Monitoring Well
Extraction Well
Hanging Well
GWPS Groundwater Protection Standard
Plume Center of Mass
Seepage Collection Sump
Oct-2021 Plume Boundary
Apr-2023 Plume Boundary



GWPS
Concentration (mg/L)
0.006 0.007 0.008 0.01 0.015 0.02 0.025 0.03 0.04 0.05





Spatial Change Indicator™
Increase
Decrease

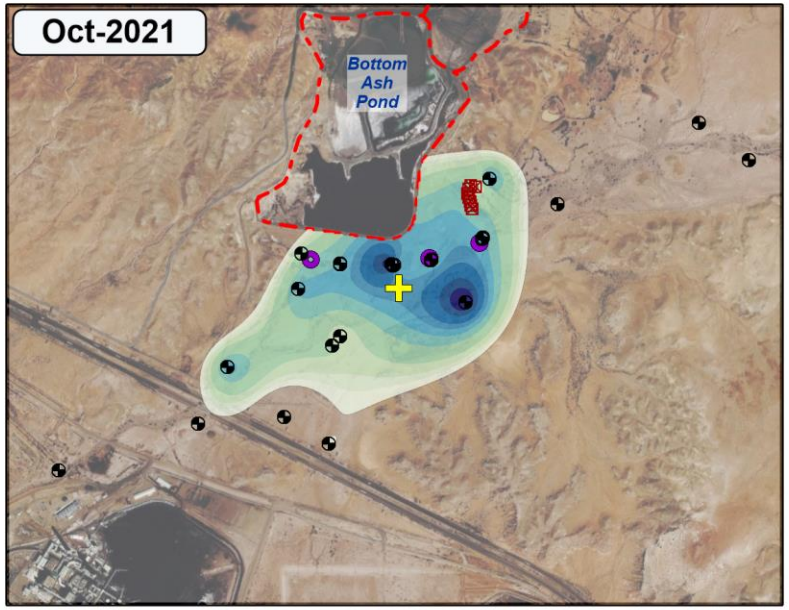
Plume Analytics® Services © WSP 2026 US Pat. No. 10,400,583

Cobalt Spatial Changes Oct-2021 vs Oct-2023

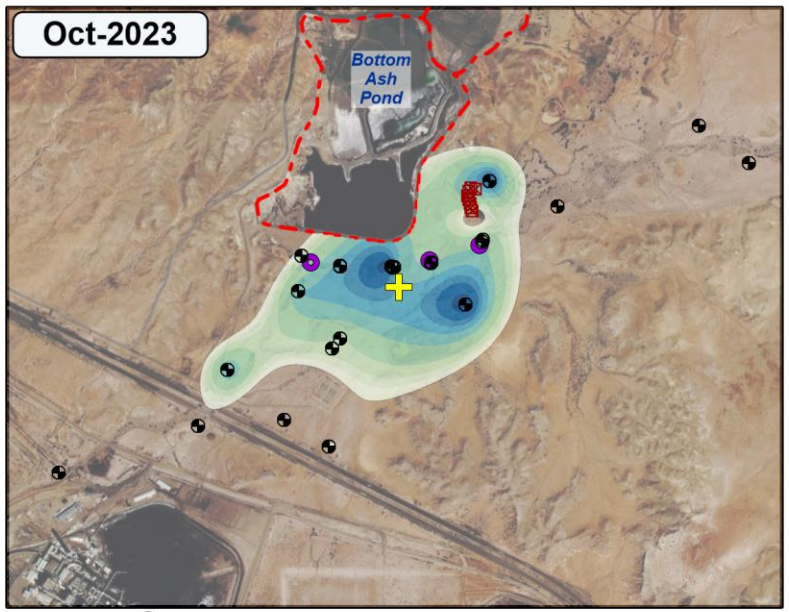
Plume Characteristics

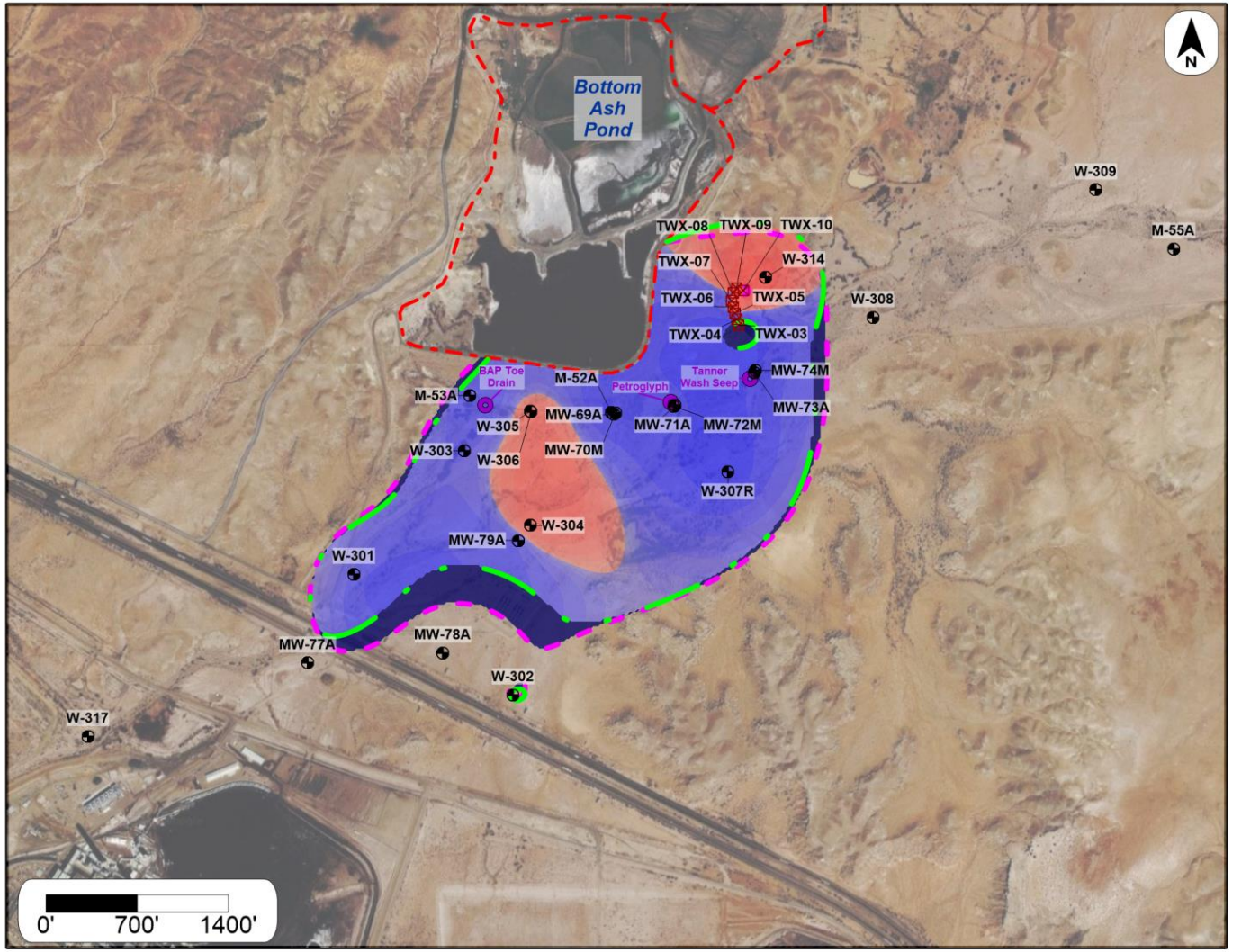
Area: **10% Decrease**
Average Concentration: **9% Decrease**
Mass Indicator: **18% Decrease**
Mass Increase: **5.30 lbs Increase**
Mass Decrease: **34.2 lbs Decrease**

Monitoring Well
Extraction Well
Hanging Well
GWPS Groundwater Protection Standard
Plume Center of Mass
Seepage Collection Sump
Oct-2021 Plume Boundary
Oct-2023 Plume Boundary



GWPS
Concentration (mg/L)
0.006 0.007 0.008 0.01 0.015 0.02 0.025 0.03 0.04 0.05





Spatial Change Indicator™
Increase
Decrease

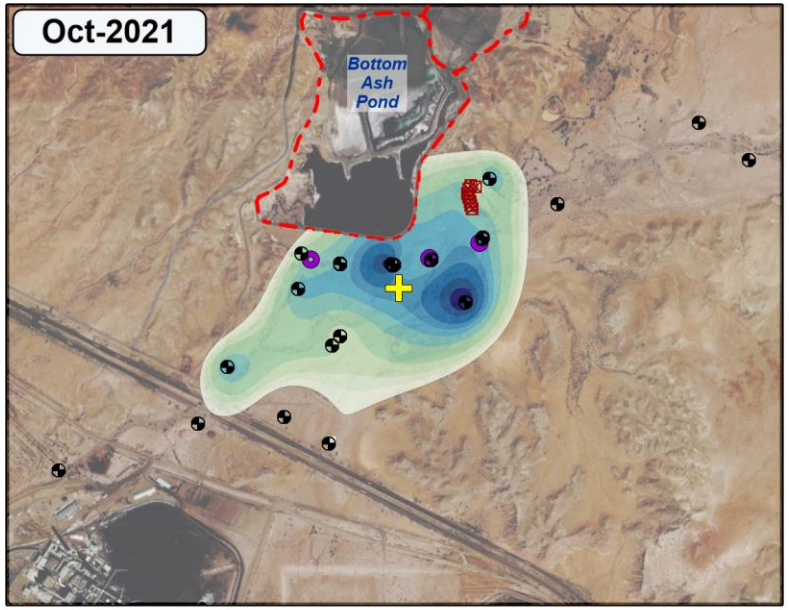
Plume Analytics® Services © WSP 2026 US Pat. No. 10,400,583

Cobalt Spatial Changes Oct-2021 vs Apr-2024

Plume Characteristics

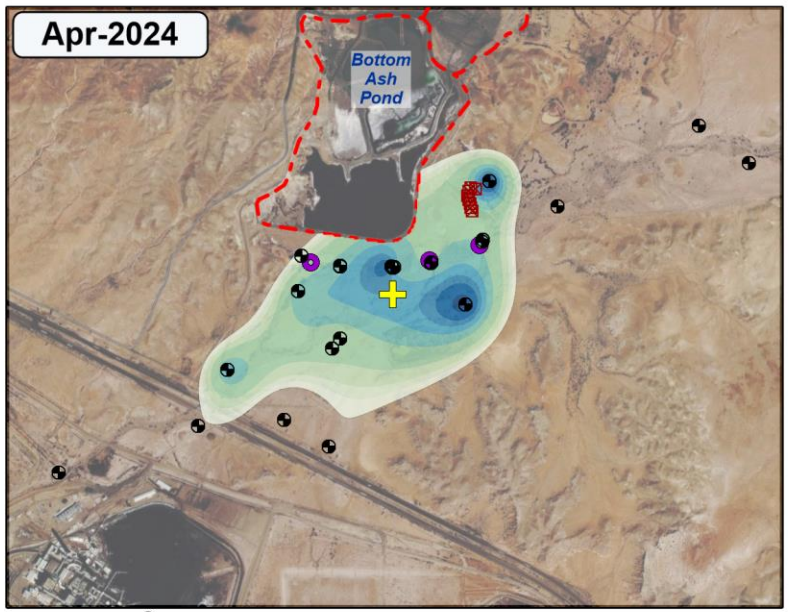
Area: **3% Decrease**
Average Concentration: **11% Decrease**
Mass Indicator: **14% Decrease**
Mass Increase: **6.51 lbs Increase**
Mass Decrease: **28.8 lbs Decrease**

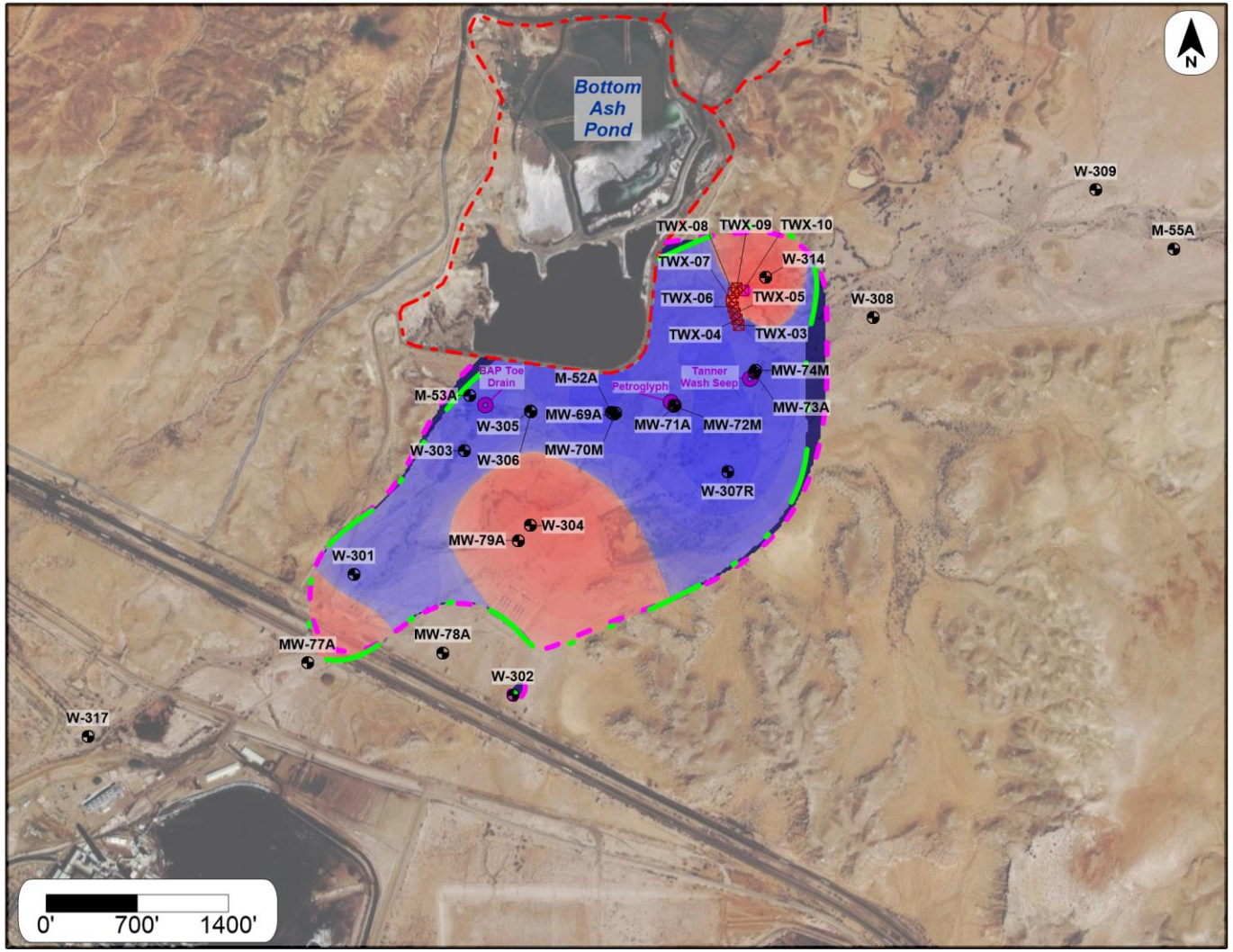
Monitoring Well
Extraction Well
Hanging Well
GWPS Groundwater Protection Standard
Plume Center of Mass
Seepage Collection Sump
Oct-2021 Plume Boundary
Apr-2024 Plume Boundary



GWPS **Concentration (mg/L)**

0.006 0.007 0.008 0.01 0.015 0.02 0.025 0.03 0.04 0.05





Spatial Change Indicator™

Increase

Decrease

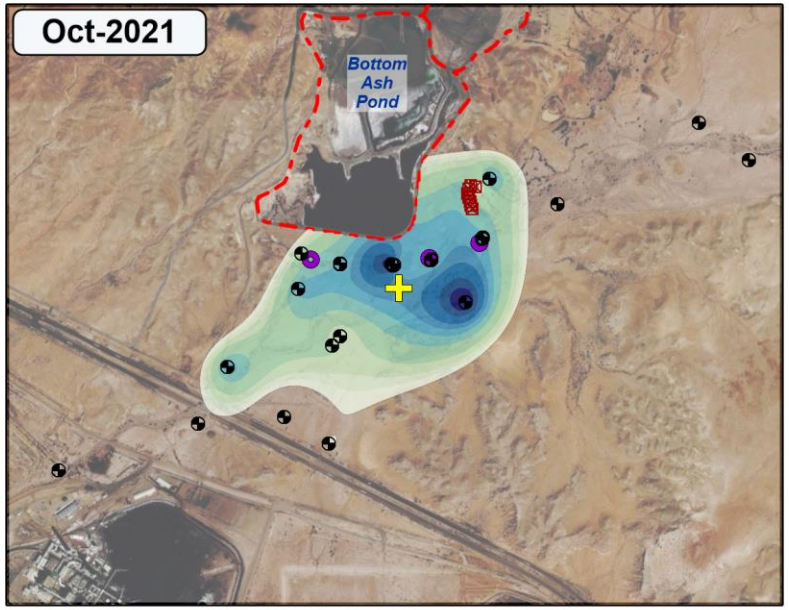
Plume Analytics® Services © WSP 2026 US Pat. No. 10,400,583

Cobalt Spatial Changes Oct-2021 vs Oct-2024

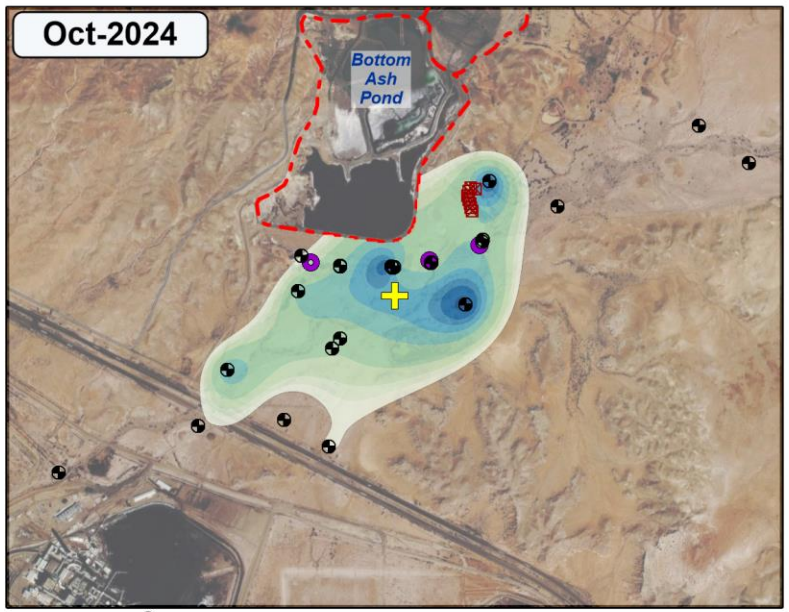
Plume Characteristics

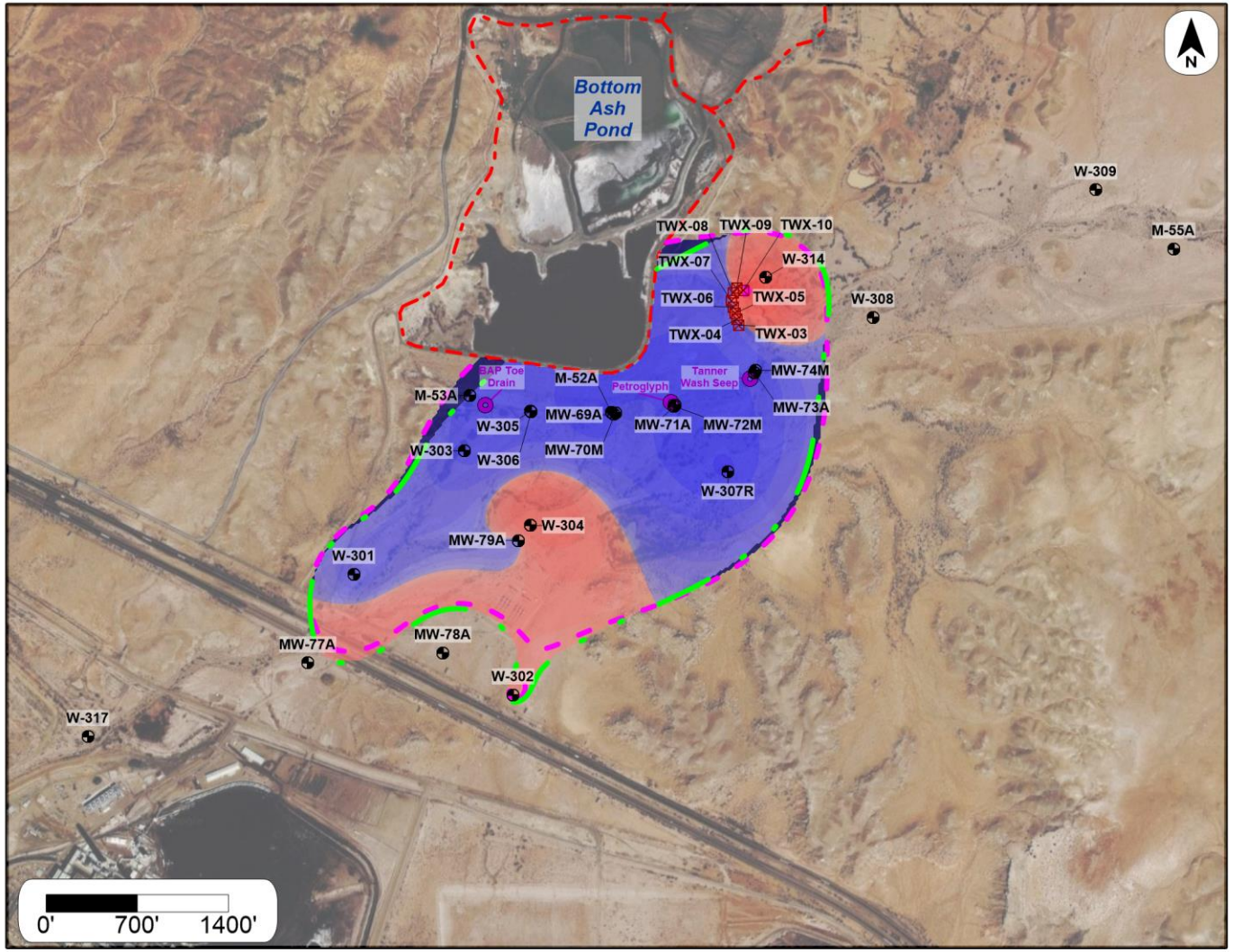
Area: **0% Decrease**
Average Concentration: **16% Decrease**
Mass Indicator: **17% Decrease**
Mass Increase: **6.84 lbs Increase**
Mass Decrease: **33.8 lbs Decrease**

Monitoring Well
Extraction Well
Hanging Well
GWPS Groundwater Protection Standard
Plume Center of Mass
Seepage Collection Sump
Oct-2021 Plume Boundary
Oct-2024 Plume Boundary



GWPS
Concentration (mg/L)
0.006 0.007 0.008 0.01 0.015 0.02 0.025 0.03 0.04 0.05





Spatial Change Indicator™
Increase
Decrease

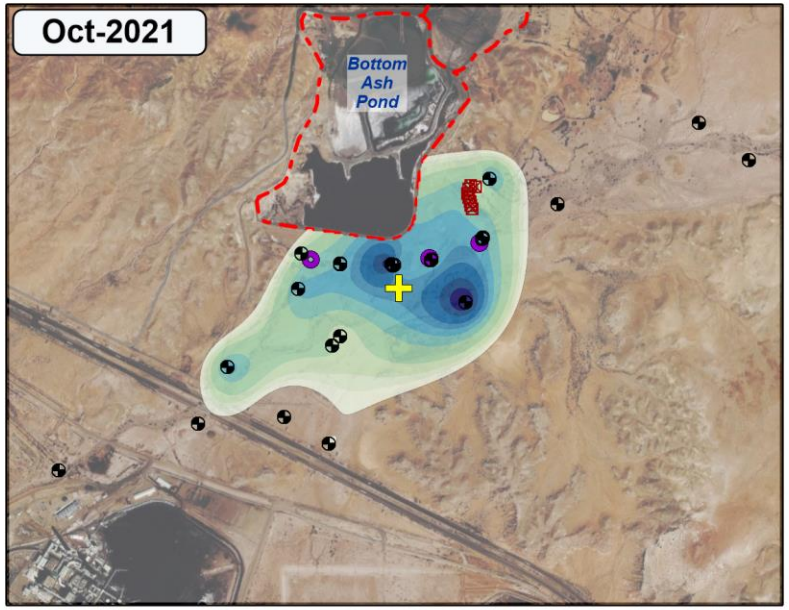
Plume Analytics® Services © WSP 2026 US Pat. No. 10,400,583

Cobalt Spatial Changes Oct-2021 vs Apr-2025

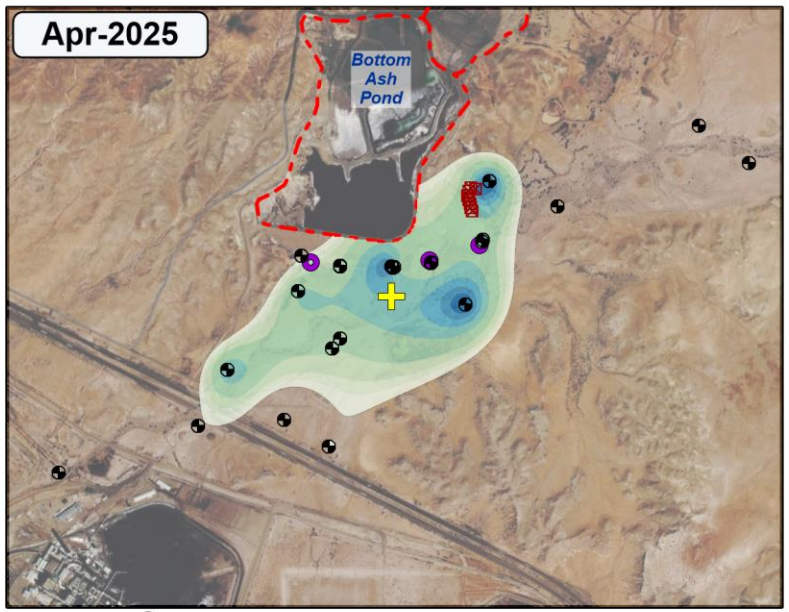
Plume Characteristics

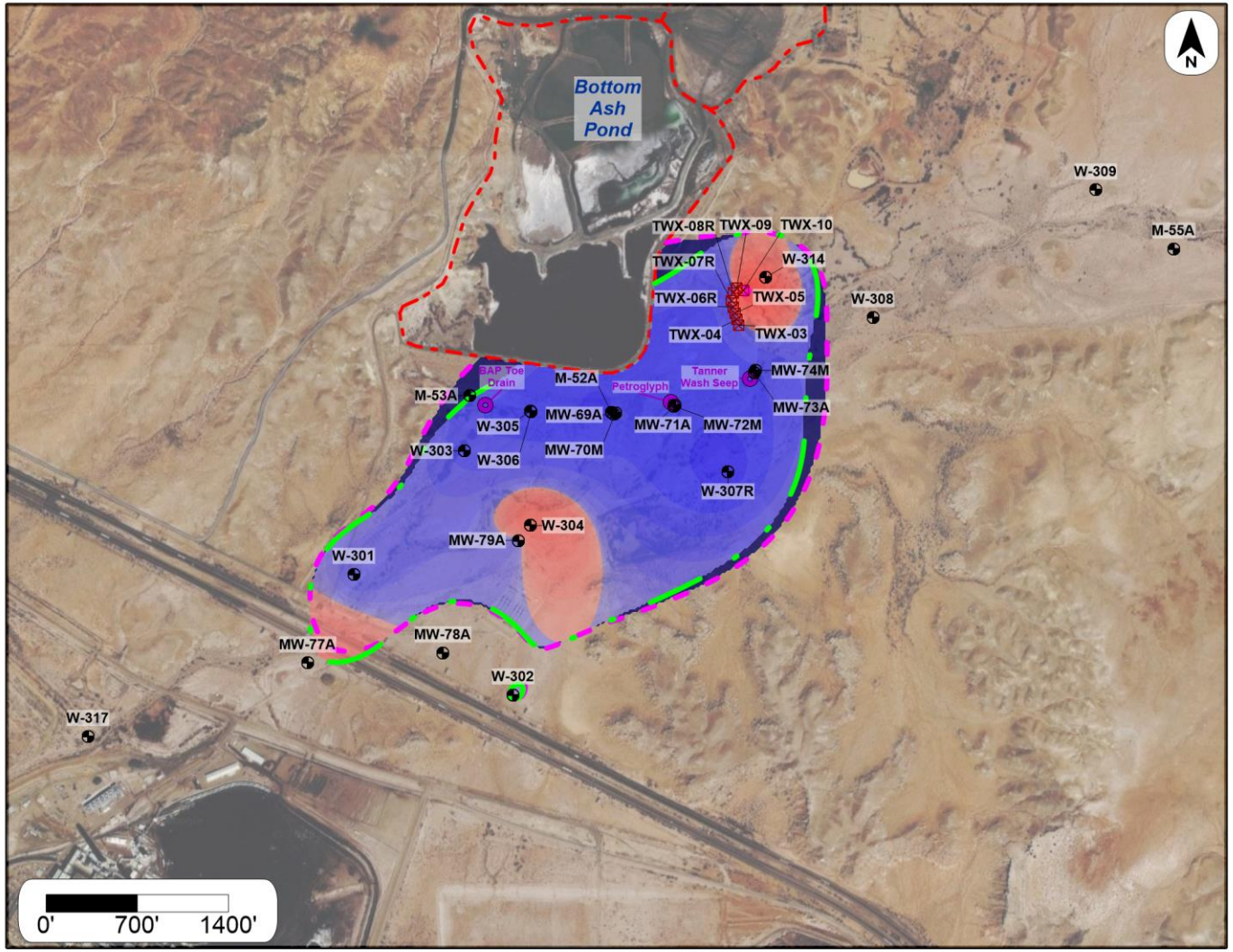
Area: **7% Decrease**
Average Concentration: **23% Decrease**
Mass Indicator: **28% Decrease**
Mass Increase: **3.76 lbs Increase**
Mass Decrease: **49.6 lbs Decrease**

Monitoring Well
Extraction Well
Hanging Well
GWPS Groundwater Protection Standard
Plume Center of Mass
Seepage Collection Sump
Oct-2021 Plume Boundary
Apr-2025 Plume Boundary



GWPS
Concentration (mg/L)
0.006 0.007 0.008 0.01 0.015 0.02 0.025 0.03 0.04 0.05





Spatial Change Indicator™
Increase
Decrease

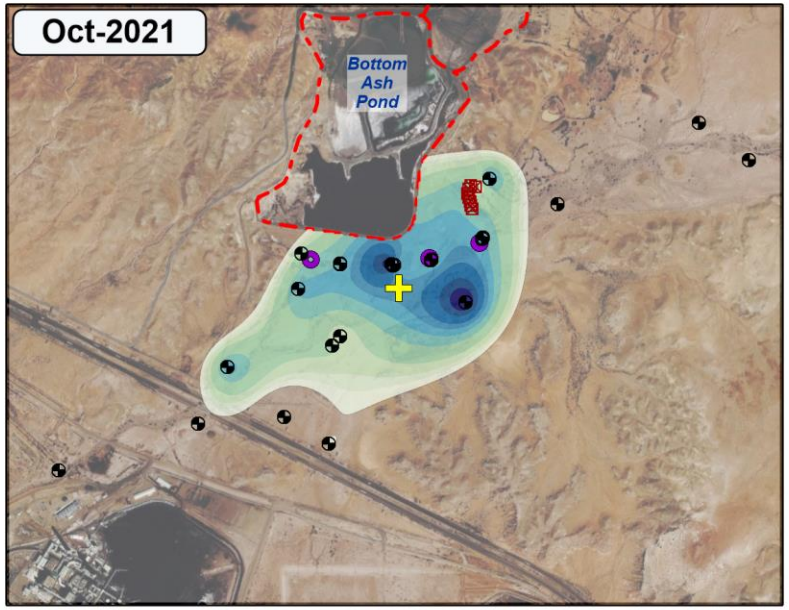
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Cobalt Spatial Changes Oct-2021 vs Oct-2025

Plume Characteristics

Area: **8% Decrease**
Average Concentration: **32% Decrease**
Mass Indicator: **37% Decrease**
Mass Increase: **2.44 lbs Increase**
Mass Decrease: **63.5 lbs Decrease**

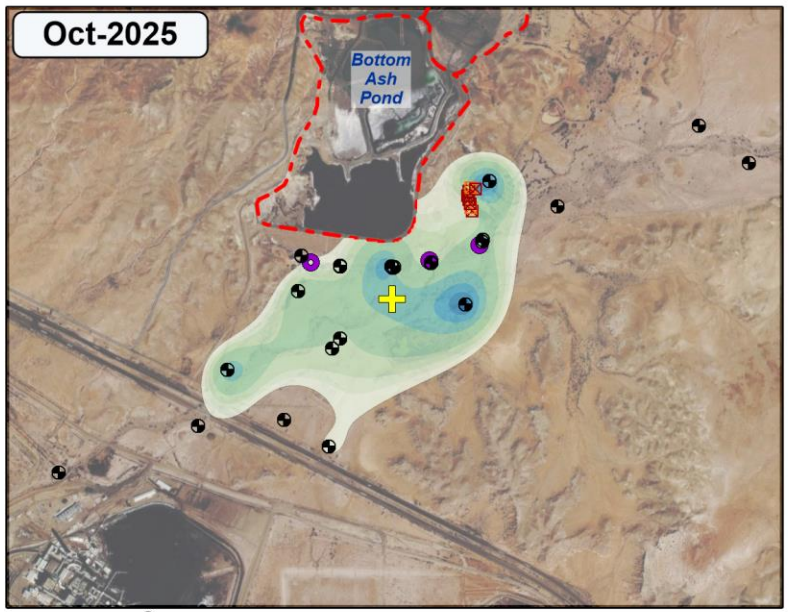
Monitoring Well
Extraction Well
Hanging Well
GWPS Groundwater Protection Standard
Plume Center of Mass
Seepage Collection Sump
Oct-2021 Plume Boundary
Oct-2025 Plume Boundary

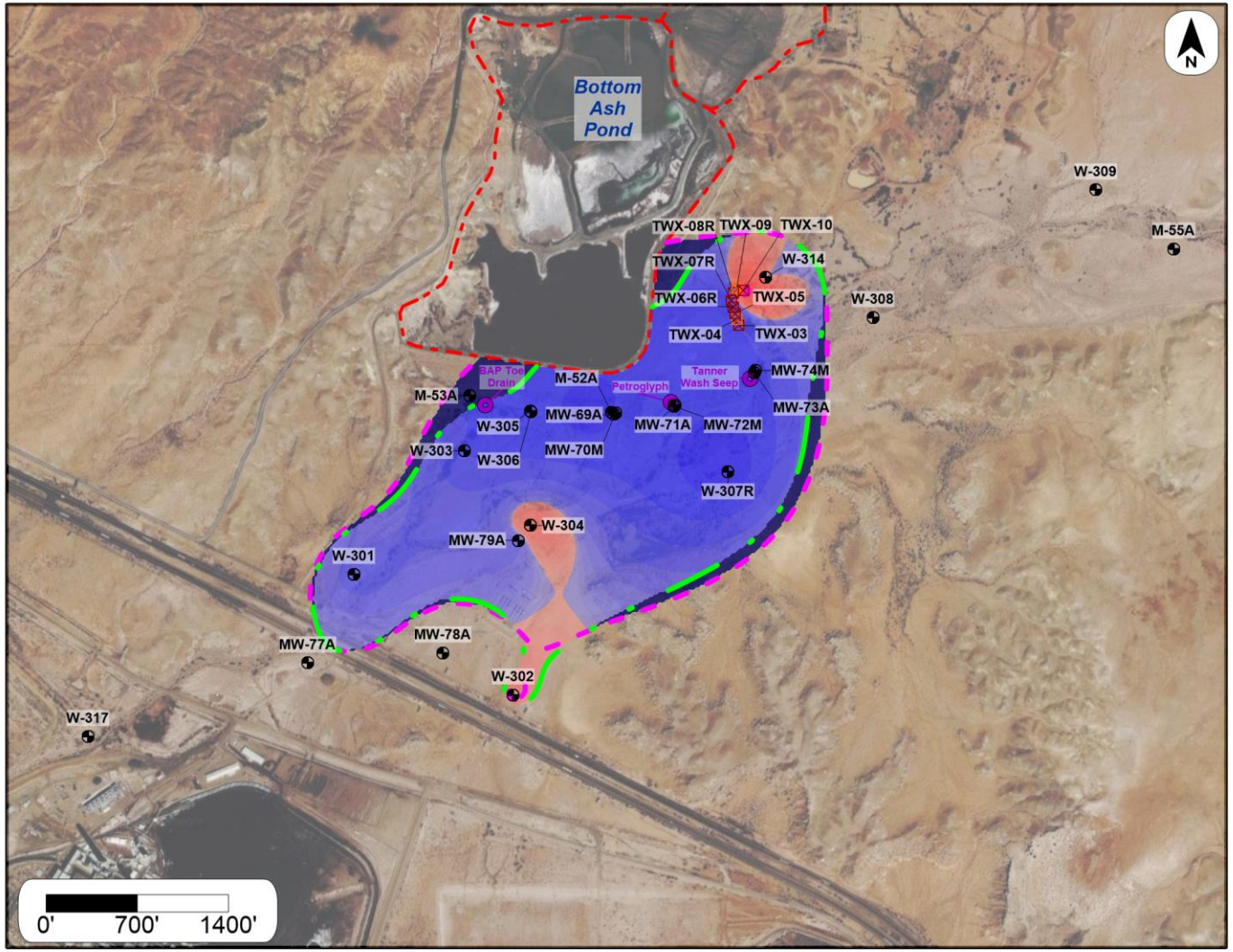


GWPS

Concentration (mg/L)

0.006 0.007 0.008 0.01 0.015 0.02 0.025 0.03 0.04 0.05





Spatial Change Indicator™

Increase

Decrease

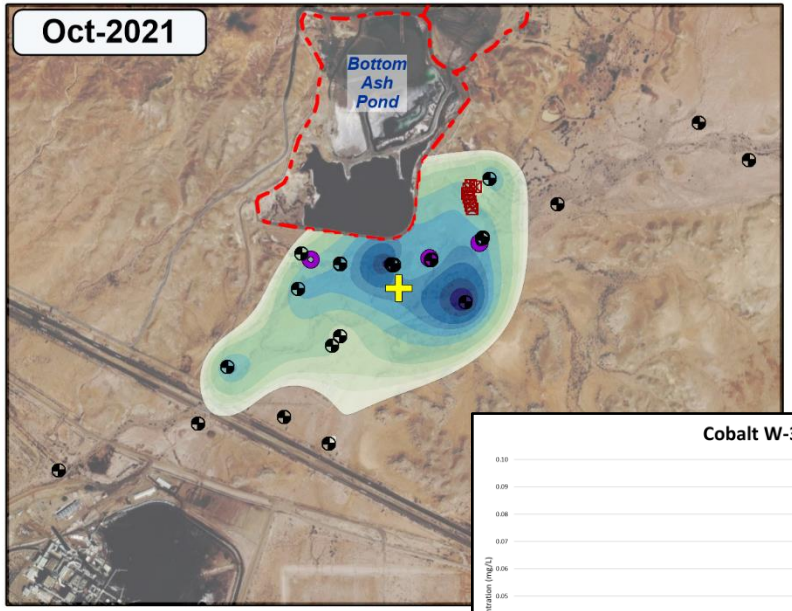
Plume Analytics® Services © WSP 2026 US Pat. No. 10,400,583

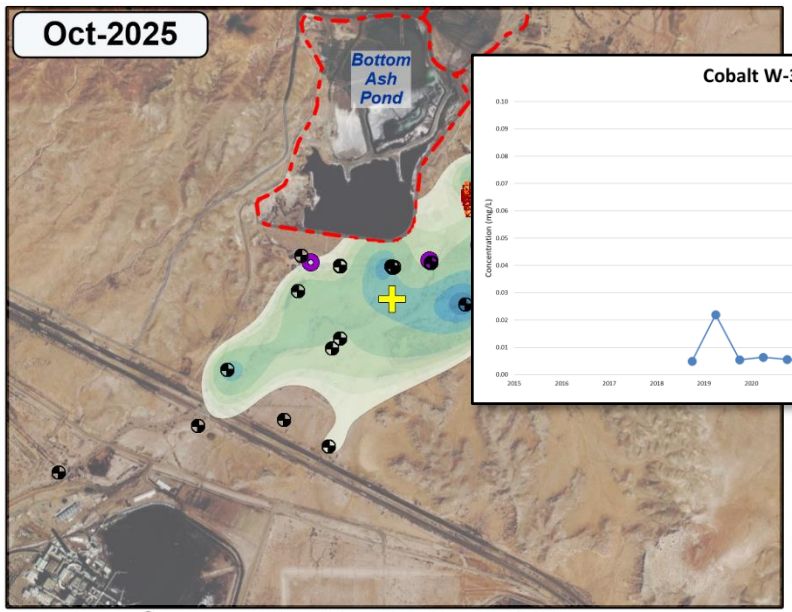
Cobalt Spatial Changes Oct-2021 vs Oct-2025

Plume Characteristics

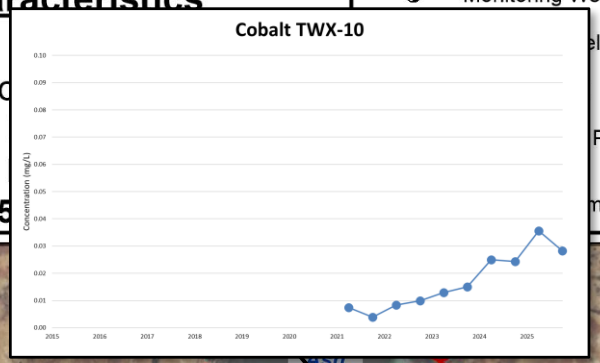
Area: **8% Decrease**
Average Concentratio
Mass Indicator: **37%**
Mass Increase: **2.44**
Mass Decrease: **63.5**

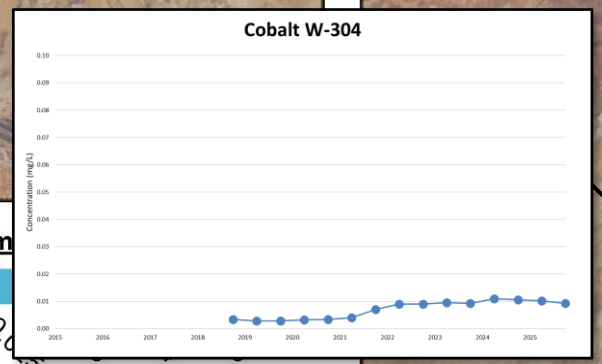
Monitoring Well
Plume Center of Mass
Seepage Collection Sump
Protection Standard
me Boundary
Oct-2025 Plume Boundary

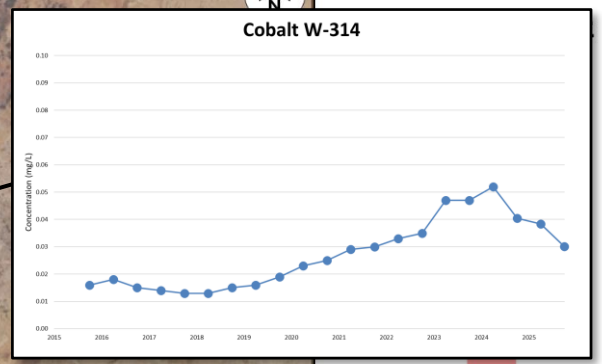


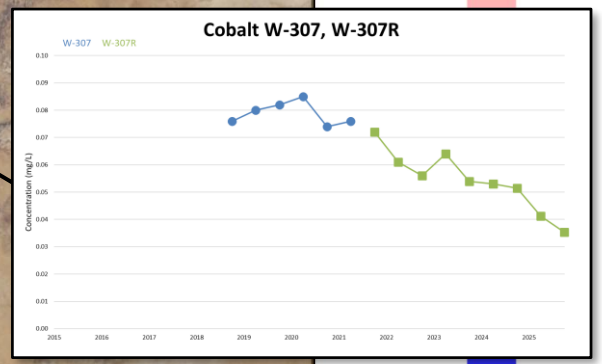


GWPS
Concentration (m
0.006 0.007 0.008 0.01 0.015 0.02



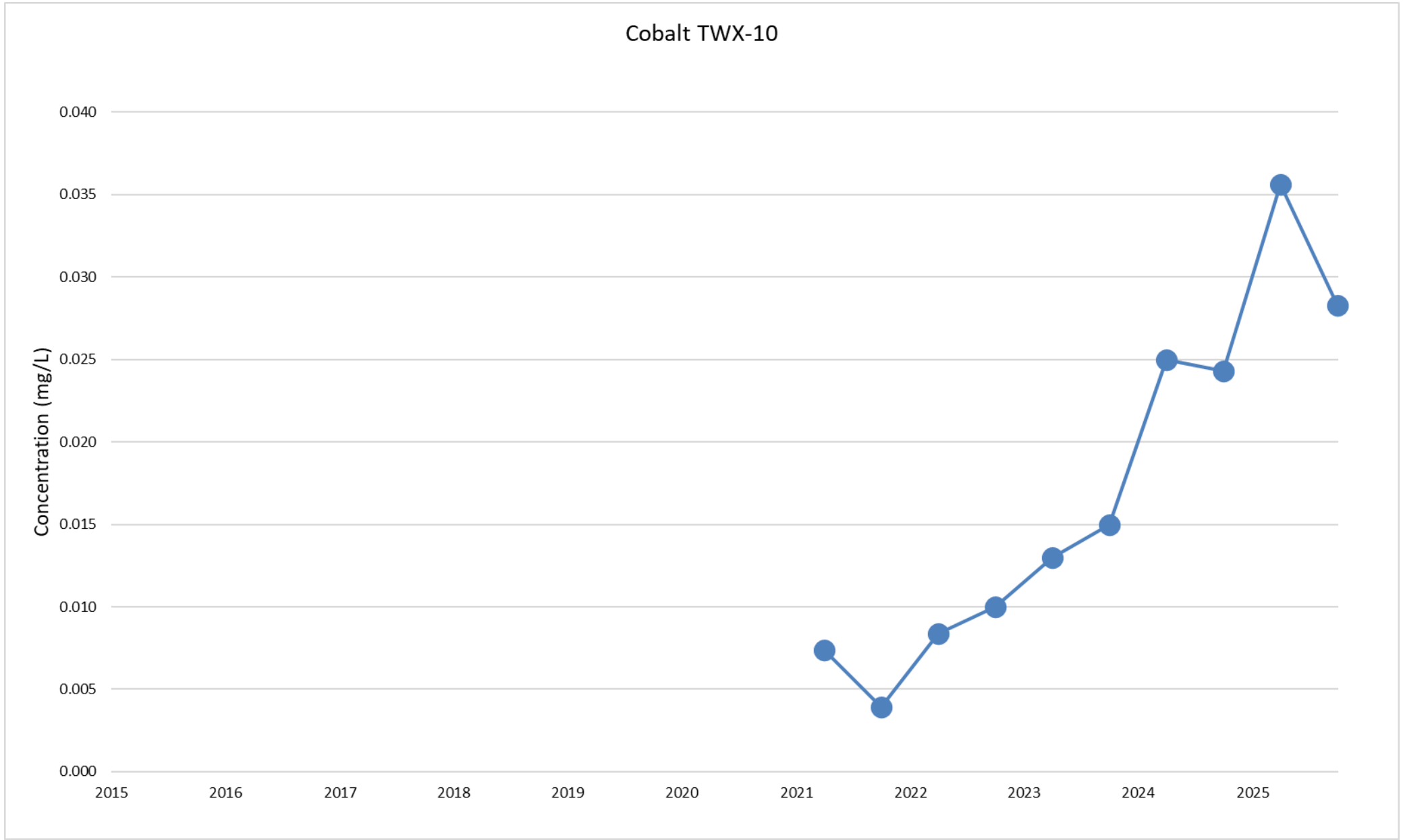




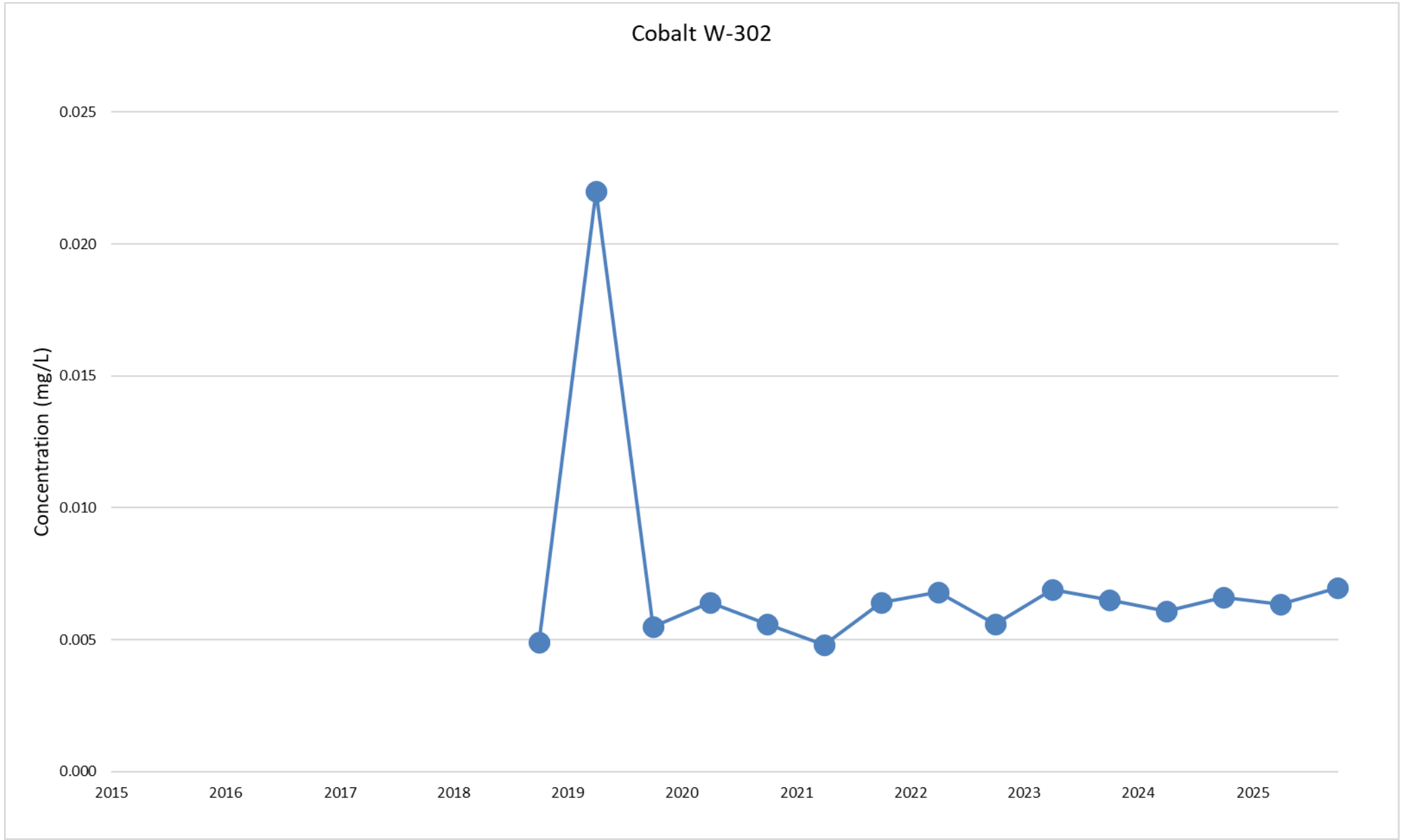


Decrease

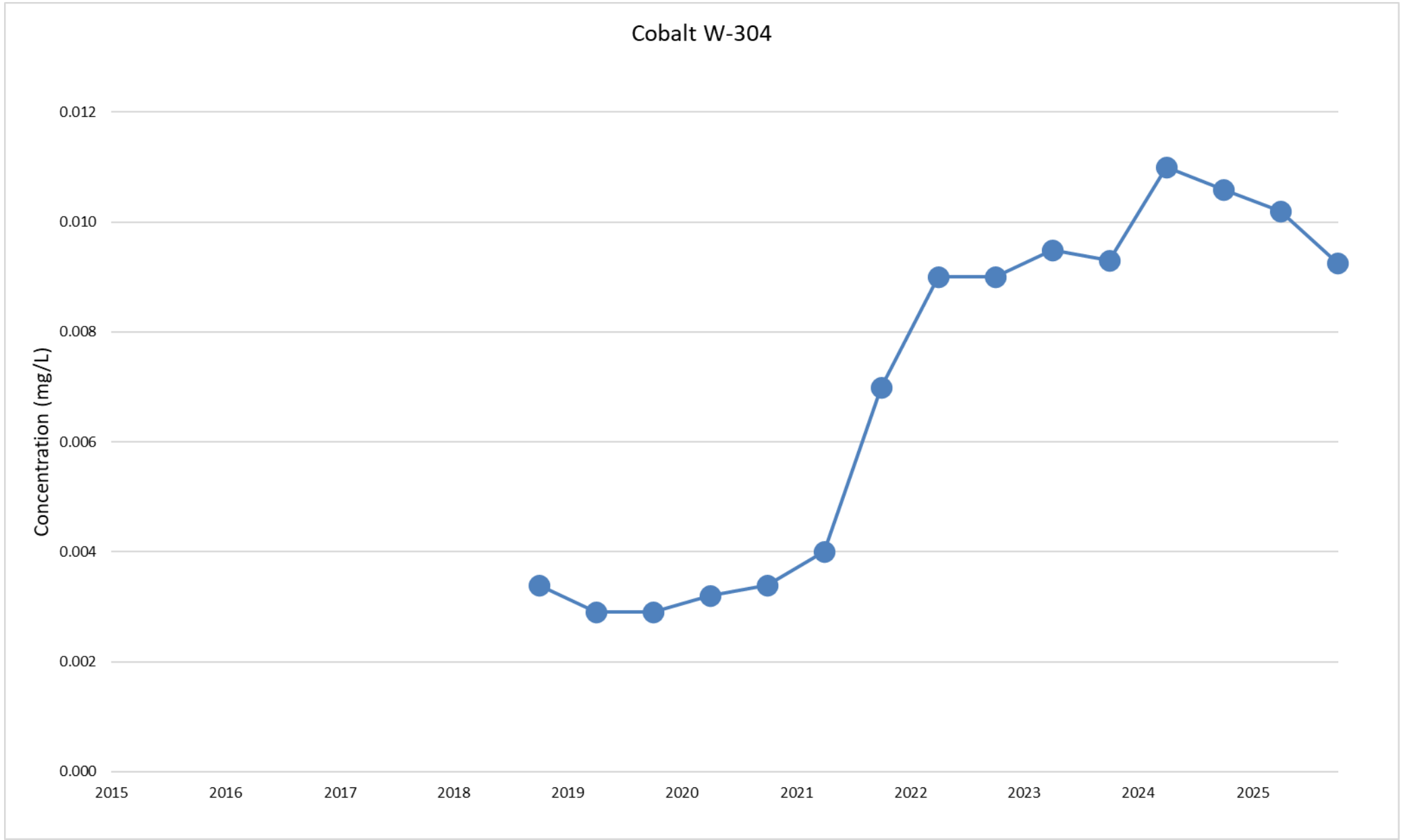
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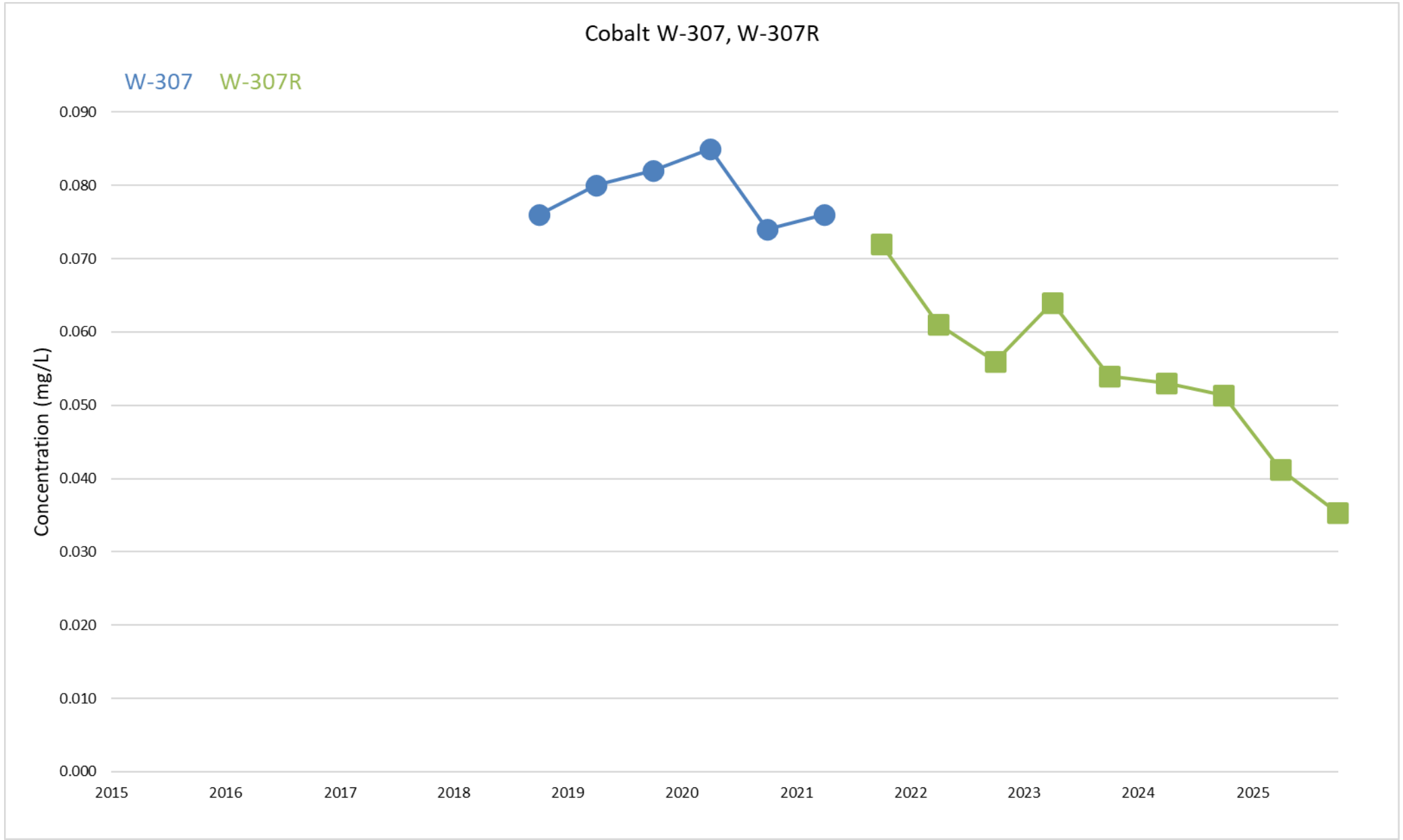
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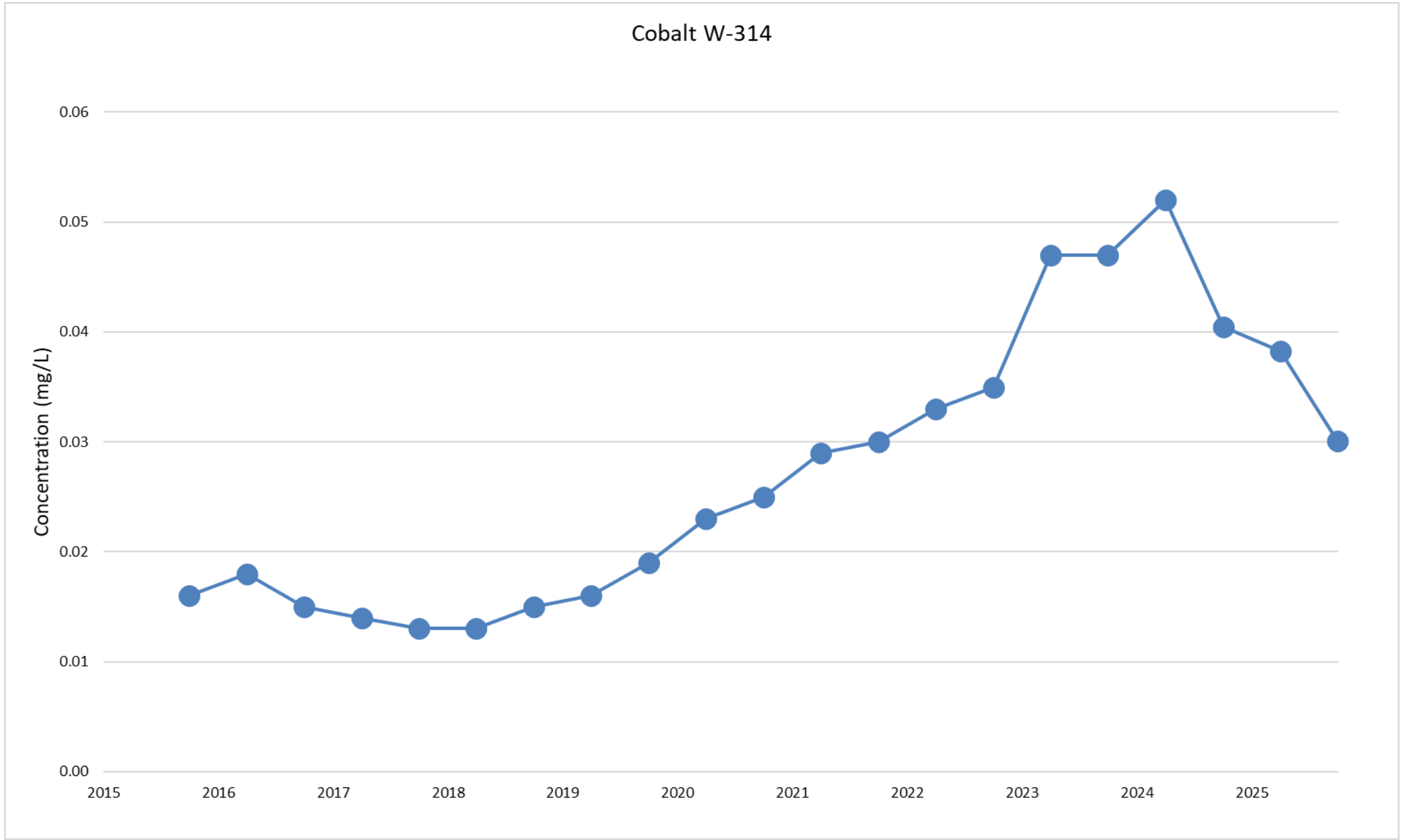
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